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WE BEG LEAVE to inform such of our readers as may be interested, that we have lately had the honor of a personal interview with the distinguished deities that preside over the garden and the orchard, FLORA and POMONA.

The time was a soft balmy August night; the scene was a leafy nook in our own grounds, where, after the toils of the day, we were enjoying the *dolce far niente* of a hammock, and wondering at the necessity of anything fairer or diviner than rural nature, and such moonlight as then filled the vaulted heaven, bathed the tufted foreground of trees, the distant purple hills, and

"Tipt with silver all the fruit tree tops."

It was a scene for an artist; yet, as we do not write for the Court Journal, we must be pardoned for any little omission in the costumes or equipages of the divinities themselves. Indeed, we were so thoroughly captivated with the immortal candor and freshness of the goddesses, that we find many of the accessories have escaped our memory. POMONA's breath, however, when she spoke, filled the air with the odor of ripe apricots, and she held in her left hand a fruit, which we immediately recognised as one of the golden apples of the Hesperides, (of which she knew any gardener upon earth would give his right hand for a slip,) and which in the course of our interview, she acknowledged was the only sort in the mythological gardens which excels the Newtown Pippin. Her lips had the dewy freshness of the ruddiest strawberries raised by Mr. LONGWORTH's favorite old Cincinnati market woman; and there was a bright sparkle in her eye, that assured us there is no trouble with the curculio in the celestial orchards.

But if we were charmed with the ruddy beauty of POMONA, we were still more fascinated by the ideal freshness and grace of FLORA. She wore on her head a kind of fanciful crown of roses, which were not only dewy moss roses, of the loveliest shades imaginable, but the colours themselves changed every moment, as she turned her head, in a manner that struck us quite speechless with admiration. The goddess observing this, very graciously remarked that these roses were the *true perpetuals*, since they not only really bloomed always, but when plucked, they retained their brilliancy and freshness forever. Her girdle was woven in a kind of green and silver pattern of jasmine leaves and starry blossoms, but of a species far more lovely than

any in Mr. PAXTON's Magazine. She held a bouquet in her hand, composed of sweet-scented camellias, and violets as dark as sapphire, which she said her gardener had brought from the new planet Neptune; and unique and fragrant blossoms continually dropped from her robe, as she walked about, or raised her arms in gestures graceful as the swinging of a garland wooed by the west wind.

After some stammering on our own part, about the honor conferred on an humble mortal like ourselves—rare visits of the goddesses to earth, etc., they, understanding, probably, what Mr. BEECHER calls our "amiable fondness for the Hudson," obligingly put us at our ease, by paying us some compliments on the scenery of the Highlands, as seen at that moment from our garden seat, comparing the broad river, radiant with the chaste light of the moon, to some favorite lake owned by the immortals, of whose name, we are sorry to say, we are at this moment entirely oblivious.

Our readers will not, of course, expect us to repeat all that passed during this enchanting interview. But, as we are obliged to own that the visit was not altogether on our own behalf, or rather that the turn of the discourse held by our immortal guests showed that it was chiefly intended to be laid before the readers of the Horticulturist, we lose no time in putting the latter *en rapport*.

POMONA opened the discourse by a few graceful remarks, touching the gratification it gave them that the moderns, down to the present generation, had piously recognized her guardian rights and those of her sister FLORA, even while those of many of the other Olympians, such as Jupiter, Pan, Vulcan, and the like, were nearly forgotten. The wonderful fondness for fruits and flowers, growing up in the western world, had, she declared, not escaped her eye, and it received her warmest approbation. She said something that we do not quite remember, in the style of that good old phrase, of "making the wilderness blossom like the rose," and declared that FLORA intended to festoon every cottage in America with double Michigan roses, Wistarias, and sweet-scented vines. For her own part, she said, her people were busy enough in their invisible superintendence of the orchard planting now going on at such a gigantic rate in America, especially in the Western States. Such was the fever in some of those districts, to get large plantations of fruit, that she could not, for the life of her, induce men to pause long enough to select their ground or the proper sorts of fruit to be planted. As a last resort, to keep them a little in check, she was obliged, against her better feelings, to allow the blight to cut off part of an orchard now and then. Otherwise the whole country would be filled up with poor miserable odds and ends from Europe—"Beurrés and Bergamots, with more sound in their French names, than flavor under their skins."

These last words, we confess, startled us so much, that we opened our eyes rather widely, and called upon the name of Dr. VAN MONS, the great Belgian—spoke of the gratitude of the pomological world, etc. To our surprise, POMONA declared that she had her doubts about the Belgian professor—she said he was a very crotchetty man, and although he had devoted his life to her service, yet he had such strange whims and caprices about *improving* fruits by a regular system of degeneration or running them out, that she could make nothing of him. "Depend upon it," she said, "many of his sorts are worthless,—most of them have sickly constitutions, and," she added, with some emphasis, snapping her fingers as she spoke,

"I would not give one sound healthy seedling pear, springing up under natural culture in your American soil, for all that Dr. VAN MONS ever raised!" [We beg our readers to understand that these were POMONA's words and not ours.] She gave us, after this, very special charge to impress it upon her devotees in the United States, not to be too much smitten with the love of new names, and great collections. It gave her more satisfaction to see the orchards and fruit room of one of her liege subjects teeming with the abundance of the few sorts of real golden merit, than to see whole acres of new varieties that have no other value than that of novelty. She said too, that it was truly amazing how this passion for collecting fruits—a genuine monomania—grew upon a poor mortal, when he was once attacked by it; so that indeed, if he could not add every season, at least fifty new sorts from the continent, with some such outlandish names, (which she said she would never recognise,) as *Beurré bleu d'été nouveau de Scrowsywowsy*, etc., he would positively hang himself in a fit of the blues!

POMONA further drew our attention in some sly remarks, that were half earnest and half satire, to the figure that many of these "Belgian pericarps" cut at those handsome levees, which her votaries among us hold in the shape of the great September exhibitions. She said it was really droll to see, at such shows as those of our two large cities, where there was a profusion of ripe and luscious fruit, that she would have been proud of in her own celestial orchards—to see there intermingled some hundred or so mean looking, hard green pears, that never had ripened, or never did, would, or could ripen, so as to be palatable to any but a New-Zealander. "Do solicit my friends there, for the sake of my feelings," said she, "to give the gentlemen who take such pleasure in exhibiting this degenerate foreign squad, a separate 'green room' for themselves." To this remark we smiled and bowed low, though we would not venture to carry out her suggestion for the world.

We had a delightful little chat with FLORA, about some new plants which she told us grew in certain unknown passes in the Rocky Mountains, and mountainous parts of Mexico, that will prove quite hardy with us, and which neither Mr. FORTUNE nor the London Horticultural Society know any thing about. But she finally informed us, that her real object in making herself visible on the earth at present, with Madam POMONA, was to beg us to enter her formal and decided protest against the style of decorations called after her name, and which had, for several years past, made the otherwise brilliant AUTUMNAL HORTICULTURAL SHOWS in our quarter of the globe, so disagreeable an offering to her. "To call the monstrous formations, which, under the name of temples, stars, tripods and obelisks—great bizarre masses of flowers, plastered on wooden frames—to call these after her name, 'Floral designs,' was," she said, "even more than the temper of a goddess could bear." If those who make them, are sincerely her devoted admirers, as they profess to be, she begged us to say to them, that, unless they had designs upon her flow of youth and spirits, that had hitherto been eternal, she trusted they would hereafter desist.

We hereupon ventured to offer some apology for the offending parties, by saying, they were mostly the work of the "bone and sinew" of the gardening profession, men with blunt fingers but earnest souls, who worked for days upon what they fancied was a worthy offering to be laid upon her altars. She smiled, and said the intention was accepted, but not its results,

and hinted something about the same labor being performed under the direction of the more tasteful eye of ladies, who should invent and arrange, while the fingers of honest toil wrought the ruder outline only.

Flora then hinted to us, how much more beautiful flowers were when arranged in the simplest forms, and said when combined or moulded into shapes or devices, nothing more elaborate or artificial than a *vase-form* is really pleasing. *Baskets*, moss-covered, and flower-woven, she said, were thought elegant enough for Paradise itself. There are not only baskets, continued she, that are beautiful lying down, and showing inside a rich mosaic of flowers—each basket, large or small, devoted perhaps, to some one choice flower in its many varieties; but baskets on the tops of mossy pedestals, bearing tasteful emblems interwoven on their sides; and baskets hanging from ceilings, or high festooned arches—in which case they display in the most graceful and becoming manner, all manner of drooping and twining plants, the latter stealing out of the nest or body of the basket, and waving to and fro in the air they perfume. "Then there is the *garland*," continued our fair guest; "it is quite amazing, that since the days of those clever and harmonious people, the Greeks, no one seems to know anything of the beauty of the garland. Now in fact nothing is more beautiful or becoming than flowers woven into tasteful garlands or chaplets. The form a *circle*—that emblem of eternity, so full of dread and mystery to you mortals—and the size is one that may be carried in the hand or hung up, and it always looks lovely. Believe me, nothing is prettier in my eyes, which, young as they look, have had many thousands of your years of experience, than a fresh green garland woven with bright roses."

As she said this, she seized a somewhat common basket that lay near us, and passing her delicate fingers over it, as she plucked a few flowers from the surrounding plants, she held it, a picture of magical verdure and blossoms, aloft in the air over our heads, while on her arm she hung a garland as exquisitely formed and proportioned as if cut in marble, with, at the same time, all the airiness which only flowers can have. The effect was ravishing! simplicity, delicacy, gracefulness and perfume. The goddess moved around us with an air and in an attitude compared with which the glories of Titian and Raphael seem tame and cold, and as the basket was again passing over our head, we were just reaching out our hand to detain the lovely vision, when, unluckily, the parti-colored dog that guards our demesne, broke into a loud bark; Pomona hastily seized her golden apple; Flora dropped our basket, (which fell to the ground in its wonted garb of plain willow,)—and both vanished into the dusky gloom of the night shadows; at that moment, suddenly rising up in our hammock, we found we had been—dreaming.

The Curculio.—We recommended, in the last volume of the Horticulturist, that the ground be thrown up in trenches and ridges late in autumn, around plum trees, that the curculios might be thus frozen. J. J. Thomas, Wayne county, tried this last autumn, but has this year found it unsuccessful.

He states, that David Thomas of Cayuga county, has saved fine crops of apricots and plums the past and present season, by following up the practice which he originated, of jarring them down on white sheets, and then destroying them, and also allowing the pigs free access under the trees, so that they may devour all the punctured fruit, which they do pretty effectually.

POMOLOGICAL NOTES.

BY THE LATE SAMUEL G. PERKINS, BOSTON.

[We noticed, in our July number, the death of our venerable and respected correspondent, S. G. Perkins, Esq. Since that time, we have received from his amanuensis, Mr. Rhoades, two articles dictated by Mr. Perkins before his death, and laid aside for publication in the Horticulturist. One of these follows; the other shall appear in our next; and it is with no little regret, we must then close this series of valuable papers, no less remarkable for their real practical value, than for the fact that they were the last ebbing of a gardening zeal warmly kept up till ripe fourscore.—Ed.]

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There is a notion prevalent with many cultivators of fruits, that the cankered state of many of the *old* pears is owing to their approaching extinction, in consequence of the death of the original or parent tree from which the first scions for grafting were taken; they believing that the progeny of fruit trees, called "Wildings," never outlived the original stock, or, if they did live, were never thrifty growers.

This is what they call "running out," as they consider the St. Michael, the St. Germain, the Virgoulouse, the Winter Colmar, the Winter Good Christian [Bon Chretien,] the Summer Good Christian, the Brown Beurré, and many other kinds.

The same idea attaches to some of the old favorite apples, such as the Golden Pippin, the Pearmain, and other sorts, the cultivation of which has been neglected many years from the prevailing prejudice. This opinion has been abroad for near five and twenty years, and, I think, grew out of some observations of Mr. Knight, late President of the London Horticultural Society, who speaks of the Golden Pippin of Great Britain as going to decay; and says he considers it run out, and that it cannot be cultivated any longer. But, if my memory serves me correctly, for it is many years since I read his works, he attributes it to a very different cause. He says, if I am not mistaken, that every fruit carries within itself the limitation of its own existence, and that he presumes the Golden Pippin has arrived at that limit, because he has tried to perpetuate the kind by grafting with scions, apparently vigorous and healthy, into young and thrifty apple stocks without effect, the grafts invariably becoming mouldy and shrivelled. This, or something like this, I think, is the assertion of Mr. Knight, whose skill and experience in the cultivation of fruits is, as I believe, acknowledged by all who know him. This proposition appears to me a safe and natural one; for every organized material substance whatever carries within itself the limitation of its own existence—every thing must, I presume, perish—the spirit alone survives.

But is it true that any of these fruits have terminated their existence? The St. Michael, the St. Germain, the Brown Beurré, the Virgoulouse, etc., are all growing now in certain places in Boston, as strong, as handsome, as free from blight, and as good in degree, as they ever were since they were first planted there by the French Huguenots, who introduced all the good pears for which this city has so long been celebrated.*

* Our Boston friends, who think their old favorite, the Doyenne or St. Michael [known in New-York as the Virgalieu,] "run out," should examine the gardens and orchards about Syracuse, Rochester, Oswego, etc., in this State. If we are not greatly mistaken, they will be surprised before a long time with so abundant a supply, via the Western Railroad, of this delicious old pear, from Western New-York, of such size and complexion, as will make them all turn *pomo-resurrectionists*.

The various opinions among your correspondents, relative to the origin and names of pears, induces me to say a few words on this subject, which long experience and acquaintance with the fruits of Europe of fifty or sixty years ago, may perhaps justify.

The French Huguenots, who settled in and about Boston, in the early part of the last century, were many of them men of wealth for that period, and they purchased house lots of considerable extent in the town of Boston, and in the towns in its neighborhood, which they stocked with the best fruits of their native land. This fact is not only matter of history, but within my day; for I can look back, and recollect distinctly the many gardens that were furnished with the largest trees of the finest fruits, that were *common* throughout the town even as late as the years 1810, or even 1815, after which the increased population covered the gardens, and most of the trees, with their luxuriant fruits, soon disappeared. There are a few solitary trees of the old fruits of a hundred years standing, and more left in yards, which continue to produce the finest St. Michaels, St. Germains, Brown Beurrés, Virgalouse, Winter Colmars, Winter Good Christians, Easter Bergamots, Messire Jeans, etc., as fine as they did fifty or sixty years ago; but of those only one old fruit garden is left, that I recollect, and that is the one belonging to the late S. P. Gardner, Esq., in Summer street. Here these fine fruits are all raised in perfection, on trees probably more than a century old, under their proper and appropriate names.

The great variety of new kinds of pears brought into existence by Professor Van Mons, and others who followed his system of propagation, and the careless manner that gentlemen from the several parts of Europe, where they were raised, sent them abroad under false or incorrect names, has caused much disorder in the nomenclature of these fruits. From the Horticultural Society of London, I received, about twenty-five years ago, twenty-four kinds of various degrees of merit, which they were good enough to send me as a present, with some plums, and twelve or fourteen kinds of strawberries. As this was at an early period in the cultivation of the Van Mons fruits, and little was known either of their quality or their names, as finally established by that extraordinary man, great mistakes were made, and very bad fruits, with high sounding names, and many very fine fruits with incorrect names, came into my hands, and were cultivated by me, and by others whom I had invited to come to my garden for scions. Even to the present day, there is a confusion and misapplication of the names of the Belgian pears, that leads to continual errors and great inconvenience. The Napoleon was sent out by that Society under the name of the Archduke Charles, and by some it is still so called. This fruit is now well known as an excellent early winter pear. The Passe Madeleine was sent to me as a first rate early winter fruit, and the Duchesse de Berri and the Belle de Bruxelles, with many others, as pears of the first order; but when brought to bearing, after several years, they proved to be worthless, although beautiful to the eye. These disappointments are to be sure, very useful lessons, which are much needed in gardens, where constant losses and disappointments occur.

But the mistakes in the names of fruits are not confined to the Belgian pears. Many of the fruits of the olden time are also misnamed, and propagated under names not known in the countries whence they came or originated. Such is the fact with the Black Hamburgh Grape, the true name of

which in Hamburgh, whence it was imported into England, is the *Franckindal.* The peach, so long known in England as the Royal George, is the *Grosse Mignonne* of France, from which country it was carried to Great Britain. [Our correspondent is, we think, in the wrong here; these two sorts are essentially distinct even in their blossoms, one being large and the other small.—Ed.] The same fact applies to the peach, called in this country "Morris's Early Red Rareripe;" that excellent fruit is, I think, also the Grosse Mignonne of France.

The evil arises from the fact, that people finding a good fruit of any kind in their own ground, not knowing its proper name, call it, or allow others to call it, by their name. This is not only natural, but unavoidable. I have noticed this for many years, and have done all in my power, without effect, to correct the evil. It is not among the uninformed alone that this habit exists, but men who are at the head of the profession, as cultivators of fruits, run into the same errors. Mr. Knight, President of the Horticultural Society of London, sent a number of fruits to the late John Lowell, Esq., under mistaken names, some of which Mr. Lowell sent to me; as they have fruited, I have been able to correct these mistakes. One of these fruits was called the *Wormsley Grange*, the name of one of Mr. Knight's estates; but the pear is evidently the *Echassery* of Duhamel, a fruit known in France one hundred years ago.

If, therefore, *old* fruits, long known to the world, were frequently misnamed, it is in no wise surprising that *new* kinds, unknown before, should be misnamed, and that their qualities should be unknown for several years after they were brought into existence.

Many of the names under which the pears were sent me by the Horticultural Society of London, are, I believe, extinct; at least I have never met with them in any catalogue of pears now considered as worth raising. S. G. P.

THE PETUNIA AND ITS CULTURE.

BY AN AMATEUR, NEW-YORK.

The Petunia, with the success of a good-natured merry friend in society, has found its way into almost every garden. When we take into account, that there is not a day or hour, from the first moment in May or June, that its blossoms begin to unfold, till the cold November frosts absolutely kill it, that it is not literally covered with blossoms, it must be allowed to deserve the place in the garden which it has acquired, though its sweet and somewhat pleasant fragrance is not admired by all, and though it has little beauty of foliage to recommend it.

The two species of Petunia, from which all the fine sorts now coming into cultivation are raised, came originally from Brazil. The old White Petunia, *P. nactyginiflora*, a coarse sort now rejected from most gardens, was introduced from Brazil in 1823. The old Purple Petunia, *P. violacea*, was brought from Buenos Ayres in 1830.

The English and American gardeners have lately devoted some pains to the improvement of Petunias by crossing these two sorts, and raising hybrids between them. The result already has been the production of a number of new varieties, which completely eclipse the old ones, and are really beautiful ornaments to the parterre. There are now not only plain whites, and rich pur-

ples, but all the intermediate shades, as well as many beautifully pencilled or variegated, and others with dark tubed or throated corollas.

Among the latest and finest new varieties that are cultivated in this country, are the following: Hebe, Nixenii, Beauté parfait, Competitor, Gem, Timandra and Lady Alice Peel.

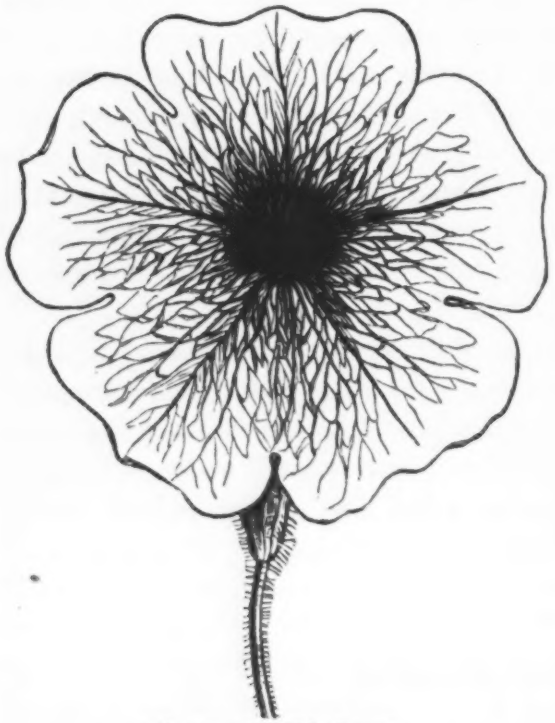

Fig. 17. *The Hebe Petunia.*

Among these, *Hebe*, fig. 17, is, to my own taste, one of the most beautiful. This variety is, in its ground, colour delicate pale lilac, superbly pencilled and marked with rich purple, and with a rich dark rosy purple throat. The plant is one of the finest in its habit, making a broad and spreading plant, bearing hundreds of blossoms, every shoot being laden with flowers. It is certainly an ornament to any parterre.

The others are also fine sorts. Lady Alice Peel is smaller in its flowers than most others, and of a delicate violet purple with a pale centre.

It is the easiest thing in the world to cultivate a Petunia. The more common sorts are propagated from seeds, and once established in the flower garden, they sow themselves, and would fill the beds if allowed to do so. The finest sorts are propagated by cuttings, which root freely if taken off at any time from June to September, and planted under a hand-glass, or in a shaded hot-bed covered with a light.

To preserve them for the ensuing spring, cuttings should be taken off early in September, and planted in small pots filled with good rich sandy compost. Here they will soon strike root, when they may be potted off singly, watered and gradually hardened to the air. During the winter, they may be kept in any common sitting room or greenhouse. They are ready for planting out in the open border again as soon as all danger of frost is over, say about the middle of May.

The Petunia never produces so striking an effect as when planted in small masses or groups by itself—each mass being composed of a single variety. The plants then spread themselves pleasingly over the surface of the ground in a manner perfectly natural to the genus, and the whole surface is one mass of rich bloom.

The criterion of beauty for the Petunia, among the florists, is a flower as nearly round as possible, smooth-edged, free from serratures, and not indented at the divisions; colour bright and distinct; and if variegated, the contrast to be decided, and the veins, stripes or blotches, well defined.

The name Petunia is derived from the original Brazilian one, *Petun.*

To those who have but little space, and wish something always in bloom—to those who wish to give a gay appearance to the flower garden—to those who wish a good deal of effect with as little trouble as possible, we commend the finer varieties of the Petunia. Yours, sincerely. AN AMATEUR.

REMARKS ON HYBRIDISING PLANTS.

BY PROF. LINDLEY, UNIVERSITY OF LONDON.

[We reprint the following interesting remarks on originating new varieties of plants by means of hybridising, from the pen of Dr. Lindley, in answer to various queries on this subject, which we have received from correspondents in various parts of the country. The subject is, in this country, perhaps most interesting in its application to the production of new varieties of fruit; since, by its means the skilful cultivator may, almost with certainty, produce a new variety combining novel and desirable qualities—as for example, the flavor of the Seckel pear with the size of the Bartlett, and other like combinations, which ages might not give us by the accidental improvement resulting from sowing seeds at random.

We shall return to this subject soon, with some remarks of our own.—Ed.]

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Among the many contrivances by which man has succeeded in converting the wild productions of untamed nature into bodies better adapted to his artificial wants, nothing has produced more past advantage, or promises more future profit, than HYBRIDISING. We shall not refer in this place to what has been done in the animal kingdom, but confine the attention of the reader to its effects upon vegetation.

The practice is regarded as one of very recent date; and so it is, as an artificial process, applied by rule to definite purposes. But he must be a bold man who dares to assign to it historical limits; on the contrary it may be supposed to date from the Creation—or rather, it is in a manner certain that it does. The presence of winds or insects must necessarily, from the beginning, have produced effects upon plants, which resulted in hybrid productions.

Hybridising is effected by applying to the stigma of one plant the pollen of some other; the end of which is the generation of a form, participating more or less in the attributes of both its parents. Nature, in her wildest state, opposes no insurmountable difficulties in the way of this operation. Insects, bepowdered with the pollen of one plant, plunge into the recesses of another, and thus effectually destroy the purity of races. The natural brush on the body of a bee will convey the subtil powder, as well as the trim camel's hair pencil of the artificial operator.

It is contended, indeed, that this cannot be; because if it were so, all species must, in the lapse of ages, be confounded in one inextricable chaos. But, in the first place, this supposition is of little force, till it is shown that that which is easily done artificially, cannot possibly take place naturally; and secondly, it must be proved that the wild races of plants actually do remain in all their original purity. No botanist would, we suspect, venture upon such an argument as that. The genera Salix, Rubus, Rosa, and Carex, would make the stoutest advocate of original purity pause before he threw himself into the lists. Nobody, in fact, can possibly doubt that wild hybrids exist, are common, and are, perhaps, much more frequent than we think for. We will not stop to quote notorious and proved instances of this, because we regard the fact as being beyond all dispute.

Let us not, however, infer from this that no natural obstacles are opposed to the indiscriminate mixture of races in plants; on the contrary, there are barriers which cannot be overleaped. By some mysterious agency, there is a complete bar to all intermixture of plants not closely related to each other. An Elm may certainly mix with an Elm, and perhaps with a Nettle-tree, but not with an Oak. A Peach may, peradventure, cross a Plum, but not an Apple. These obstacles are, doubtless, connected with the molecular constitution of plants, the precise nature of which we have no means of examining. Another obstacle

consists in the obvious fact, that the pollen of a flower has a better opportunity of falling upon the stigma that belongs to it, than pollen brought from any distance; and we know that if pollen has once taken effect, no after application of other pollen can change the result. In fact, the natural hybridising of wild plants will generally take place when, owing to some accidental cause, the proper stamens of the flower prove defective.

But there is a still more effectual obstacle to the confusion of races by natural hybridising. Although we conceive that the *production* of hybrid plants naturally is of more common occurrence than may be supposed, it must be remembered that the *preservation* of them is quite an artificial process. A hybrid tree springs up; it has no means of multiplying itself, except by seed. That seed has no stable constitution, but has a tendency to return towards the condition of one of its parents; in this way the hybrid disappears, while the parents remain; or it may be, and often is, barren; and then it remains as a solitary, childless individual. Again, a hybrid herb appears; it is exposed to the same obstacles as the tree in the way of perpetuation. It is barren; its seeds of themselves tend towards the original stock, which is recovered in a generation or two; or they are at once fertilised by the pollen of one of the hybrid parents, when the tendency to a return to its original stock is increased tenfold in strength. It is not, therefore, likely that natural hybrids will often be long perpetuated, although they may be frequently produced.

We mention these things by way of vindicating the hybridisers, who have been accused of attempting to subvert the whole order of Nature, by monstrous practices. It is clear that they only imitate the practices of Nature. It is equally clear, too, that the occasional formation of natural hybrids is intended as a manifestation to man of one of the sources of power with which he is so largely provided. His reason is to be called upon to turn to profitable account that which, in savage nature, leads to no result.

Be this as it may, the practice of hybridising is, as the politicians say, a *great fact*, opposition to which would be fruitless, if it were desirable. People have found out how much is to be gained by it, and they cannot be checked in its application by the sighs of botanists over the dreaded advent of a chaos of species. All that botanists, afflicted with the *hemionophobia* can do, is to abandon gardens, and seek for solace in uncultivated lands.

Hitherto the operation of hybridising has been mainly confined to gardens. But see what advantages have come of it there. What were our roses in 1789, when the first China Rose reached England? and what are they now? The China Rose hybridises so freely with almost every other, that there is hardly an ancient species to which it has not lent some part of its rich foliage, gay colours and abundant blooming. Can anything be more striking than the effect of hybridising upon Pelargoniums, Heaths, Gloxinias, Verbenas and Gladioli? By this process we have given to the hardy pears of the north, all the richness and delicacy of those of the south; to watery grapes the perfume of the Muscat; to the pale-faced but hardy Rhododendrons of Caucasus and America, the rich and glowing colours of their tender brethren of India; to the gaudy Azalea of Pontus, the crimson of the small-flowered fragrant species of the United States.

Such striking consequences of the very first operations in hybridising, have excited a universal desire to vary and extend them. Everybody now, who cares for his garden, asks himself, in the first place, what he can do to get new seedlings; and to hybridising he looks exclusively for assistance. If a fine new species of an ancient family appears, its good points, as a "brood plant," (forgive the innovation,) are among the first things discussed; and its value is much determined by its fitness for hybridising. Nor is it to be wondered at. Hybridising is a game of chance played between man and plants. It is in some respects a matter of hazard; and we all know how much more excitement is produced by uncertain than by certain results. What increases the charm of the game is, that although the end of it may be doubtful, yet a good player can judge of the issue with tolerable confidence, and that skill and judgment have in this case all their customary value.

Though hybridising has already led to

important results, they are probably nothing compared to what may be expected to come of it. We anticipate, through its assistance, a change in the whole face of cultivated plants, and we shall be much surprised if even a few years do not bring us acquainted with races of trees, esculents, corn and forage plants, of at least as much importance in their way, as those which have already appeared among fruits and flowers; all that is wanted is to call attention to the subject, and to point out what the principles are which the experimenter has to bear in mind.

The effect is produced by applying the pollen of one flower to the stigma of another. The pollen indicates the male parent, the stigma the female. In performing the operation, it is necessary to use these precautions: The female flower must be deprived of her stamens before they burst, and disperse their pollen; and as soon as the stigma is glutinous enough to hold it fast, the pollen must be applied with care. Should this care not be taken, the stigma is very likely to be inoculated with the pollen of her own or some other flower, and then the pollen which it is intended to use will not take; for it must always be borne in mind that a stigma once inoculated cannot be inoculated again. From want of these precautions, people are continually fancying they have obtained hybrids, when they have only gained natural seedlings. At least half the specimens of so called hybrids, sent to us for examination, are not hybridised at all. When the Dean of Manchester, who is the greatest of all authorities in this matter, wishes to obtain a cross, he always endeavors to force the female parent before others of its kind blow, so as to be insured against accidental inoculation from pollen floating in the air. Want of attention to these minutiæ has led to some singular errors on the part of a very ingenious correspondent, who fancied he had obtained seedlings between Crinum, Ismene, Buphane, Calostemma, etc., while he had only raised the usual seedlings.

It is hard to say within what limits the operation may be successfully practised. The general rule is, that plants only, which are very nearly related, are able to inoculate each other. But there may be exceptions to this. At least we know that very near connexions have, or seem to have, a great aversion for one another. For example a Raspberry and a Strawberry are first cousins, yet they appear to have no mind for an alliance. A Gooseberry, Currant, and Black Currant, are still nearer to each other, and their repugnance seems invincible; at least nobody has yet found means to hybridise them with each other, though many have attempted it. On the other hand, Heaths, different as they are from each other, intermingle freely; Cereus speciosissimus is readily inoculated by the night flowering Cereus; and even the creeping Cereus has been crossed with the former; the Rhododendron will fertilize the Azalea; and strangest of all, the Red Cedar has on several occasions been found to inoculate the American Arbor Vitæ, the issue from which is that curious whipcord-branched plant, called in the gardens Thuja filiformis. This singular shrub was so produced for the first time in Messrs. Loddiges' nursery at Hackney, and has since been obtained in the same manner at Paris. These facts open a very wide field for inquiry, and are especially valuable as affording evidence that the limits of hybridising are far from being narrow.

In the midst of many experiments conducted without exactness, from which no safe conclusion can be drawn, there are some which, in the hands of such men as the Dean of Manchester, seem to justify the important inference, that as a general rule, the properties of the male parent will be most conspicuous in the hybrid. For example, Mr. Herbert crossed the long-yellow-cupped common Daffodil, with the small red-edge-cupped Poet's Daffodil; and the seeds of the common Daffodil furnished a bulb with most of the attributes of the Poet's Narcissus. The same gentleman also obtained out of a capsule of Rhododendron ponticum, inoculated by Azalea pontica, seedlings which had entirely the habit of the latter or male parent.

In like manner, the arborescent crimson-flowered Rhododendron atlaclerense was raised from the seed of the dwarf pallid R. catawbiense hybridised by the arborescent crimson R. arboreum; and when the common scarlet Azalea, with its crimson flowers

and narrow leaves, was inoculated at Highclere by Azalea pontica, Mr. Gower found that its seeds produced plants much more like the male than the female parent. Exceptions, or apparent exceptions to this, do no doubt exist, and hybrids could be found, who are either half-way between their father and mother, or more like the mother than the father; but as far as any means of judging at present exist, these would seem to be the exception and not the rule; and therefore the greater influence of the male may be taken as a tolerably safe guide in all experiments upon this interesting art.

Some of the actual results of hybridising have already been pointed out; others will suggest themselves to any one acquainted with gardening. Let us now consider what further may be hoped for.

What further? Why, we have only stepped over the border, and the whole field of hybridising lies widely spread before us; its boundaries are lost in the horizon, and we shall find them still receding as we advance.

In directing attention to this part of the subject, we do not here propose to include the plants cultivated by the farmer, but to confine ourselves strictly to garden plants. What agricultural applications hybridising may have, will be found hereafter in the other department of our Journal.

The ends which it is hoped to gain by all operations directed towards improving the races of plants, are many. To increase the size of flowers, to improve their colour, to approximate their form to some assumed standard of perfection, to enlarge the foliage as in esculents, to render tender plants hardy, to make barren races fertile, to improve their flavor, by changing acidity or austerity into sugary matter, to exchange early for late varieties, are all results that have been gained by hybridising, and which, therefore, may be gained again. We propose to consider each of these points separately.

How far the *size of flowers* may be thus increased, can be judged of from the Rose, the Dahlia, the Fuchsia, Pansy, Pelargonium, and Cactus. All these plants are, in their wild state, small-flowered; cultivation alone has increased them greatly, but crossing has rapidly carried it further. By inoculating the common Heartsease with the large-flowered Pansy of the Altai mountains, a degree of vigor was infused into the former, which we could not have hoped to obtain by any other means. In other cases, as in that of the Dahlia, by observing the first symptoms of a tendency to enlarge in the natural seedlings, and then crossing the best of them, the tendency has received an immediate impulse,which has by degrees brought about the enormous flowers we are all familiar with. The flowers of Cereus speciosissimus were inoculated with the pollen of Cereus grandiflorus by Messrs. Davis & Co., of Wavertree; and the *immediate* result was a seedling from C. speciosissimus, whose flowers were ten inches in diameter. In prosecuting this branch of improvement, care should be taken to select the finest possible flowers on both the father's and mother's side, and to render them unnaturally large by destroying all their neighbors. The plants, too, should be in the most robust health; for we may be sure that no point of constitutional vigor is to be neglected in the parents, when a general and permanent increase of it is desired in their offspring. It is moreover conformable to the experience of the late Mr. Andrew Knight, that even the plumpest seeds are more likely to bring a fine seedling than the weaker.

Among the commoner plants to which attention might be drawn under this head, are not merely those which, like the Verbena, the Petunia and the Cactus, are already in the florist's hands, but others that have yet gained little attention. Take the Clematis, for example: our wild Traveller's Joy is unknown in gardens, although it has a fine foliage, and a great vigor of growth. Why not cross it with C. florida or viticella, or even flammula? Clematis viticella is a bad grower, but has beautiful blossoms; it, too,may be certainly improved by some of the finer species. Then, again, the Minorca Clematis, with its fine speckled blossoms, is tender, and flowers very late; what would be the effect of an intermixture of it and C. montana, which is so hardy and flowers so early? What a noble plant, too, is C. azurea to work with! It must not, however, be crossed with any of the red spe-

cies, for reasons that will be explained hereafter. Can anything be more worthy of attention than this charming genus, which nobody seems to have thought about? To those whose leisure enables them to prosecute such an inquiry, we may state that in all probability the species of Clematis will cross most readily in the following order, viz.—1. *C. flammula*, *vitalba*, and *cylindrica*; 2. *C. florida*, *azurea*, *viticella*, *balearica* and *montana*; but there is no apparent reason why they should not all also intermix, in skilful and patient hands.

Another important race of climbers are the Honeysuckles. The flowers of our common Honeysuckle are little more than an inch long; but those of the beautiful Tuscan species (*Caprifolium etruscum*) are twice as large, and in the Caprifolium longiflorum of China the blossoms are full three inches in length. Here are the best opportunities for an improvement of one of our most favorite plants.

Nor do we regard the case of the common Jasmine as hopeless. It is true that it does not produce its berries with us; but if it were kept under glass, and artificially fertilized, it probably would do so. Why not intermix it with the beautiful species from the Azores. It would, in all probability, give its hardiness to that plant, and receive in return a finer foliage and more abundant bloom; or, at least, it would hardly refuse to mingle with the Catalonian Jasmine, which is so like it, and then our cottages might be covered with plants as beautiful as those of Barcelona and Italy.

The Laurustinus is another plant entirely neglected by the growers of new plants, and yet there is no reason why its flowers should not become as large as those of the Guelders Rose—itself an artificial production. What would be the effect of inoculating the finest of the varieties of the Viburnum opulus, the parent of the Guelders Rose, with the Laurustinus? Either we should expect an evergreen Snowball tree, or a Snowball Laurustinus; or, at least, a considerable enlargement of the flowers of the latter; or may be the issue would be a hardier Laurustinus than we had before. But that is beside the present question, which we confine to an enlargement of the blossom.

The double Japan and Chinese Cherries (*Cerasus japonica* and *sinensis*,) among the finest of our spring shrubs, would be infinitely improved if the size of the common Cherry could be communicated to them; and there is no apparent reason against it. And in like manner, the little Dwarf Almond (*Amygdalus nana*,) not now much grown, though a very pretty bush, might, and most likely would, be readily improved by a mixture with the common Almond, or still better with that magnificent variety called in the gardens Amygdalus macrocarpa.

If we turn from shrubs to herbaceous plants, there is the same abundance of materials on which to work. Why not attempt to mix Tropœolum brachyceras or canariense with the common Nasturtium? or the beautiful Hypericum coris with H. androsæmum, or H. erectum with calycinum? or the annual Larkspurs with Delphinium grandiflorum? or the whole race of Dianthus, including the Indian Pinks and Sweet Williams, with the Cloves and Carnations? or the gay Sea Lavenders with such plants as Statice arborea and Dickinsonii? or finally our wild Buttercups with the gaudy Ranunculus of the florists?

In all these suggestions there is nothing in the least contrary to probability; the plants that are adverted to are all of common occurrence, and easy for any one to operate upon—indeed they have been selected for that reason; and they offer an abundant reward to skill and patience.

American Elm.—This tree, *Ulmus americana*, is much admired for its combination of the graceful and magnificent. Trees taken from the woods are difficult to transplant successfully; the best are raised from seed. Such will usually outgrow those from the woods. A gentleman near Albany, who plants many from seed, has had them twenty-one inches in circumference, when only eleven years old.

OKRA, AND THE SCIENCE OF SOUPS.

THERE are two vegetables which we have borrowed from the West Indies and the Tropics, that are really great acquisitions to the domestic economy of all classes. We mean the *Tomato* and the *Okra*.

The Tomato, which, fifteen years ago, was chiefly cultivated in the gardens of the curious, and was scarcely considered edible to a northern palate, has now become the tenant of every garden, and is used in some form, either raw, cooked, or preserved, in salads, sauces, and stews, or even dried like figs, by almost every man, woman and child in thecommunity. It is, indeed, one of the most valuable and wholesome of vegetables, and the appetite for it which now universally prevails, is but another proof of how much stronger are acquired tastes than natural ones, since we think it may be safely said that the first morsel of Tomato is not relished by one person in a hundred.

The Okra is another vegetable which, though it has now been cultivated and highly prized in all our more southern cities for years, and is appreciated as it deserves by those who have made its acquaintance at the north, is still far from being a well known or common vegetable in northern gardens.

It is a West Indian plant, and is familiarly known there and in New-Orleans, as *Gumbo*. It is the *Hibiscus esculentus* of botanists, and belongs to the same family as the Mallow, Althea, etc., a group of plants remarkable for its absence of all deleterious properties, and indeed for its wholesome mucilaginous qualities.

The culture of the Gumbo is perfectly simple and easy in all parts of the Union where Indian Corn and Lima Beans flourish. About the middle of May, a piece of warm and rich soil should be prepared, and the seeds sowed in drills two to three feet apart. They may be sowed four or five inches apart in the drills, and finally thinned out to single plants at double that distance. In good soils, the plants will grow from three to five feet high, and produce flowers and pods from midsummer till frost. The flowers are not much unlike those of the African Hibiscus, but they are twice as large, and the whole plant is prettier than many of the novelties allowed a place in the flower garden. The esculent part is the pod, used when about from two to three inches long, fig. 18. Its most popular use in the West Indies and at the South, is as an ingredient in soups, to which it not only gives nice consistency and agreeable flavor,but renders it more wholesome and digestible.

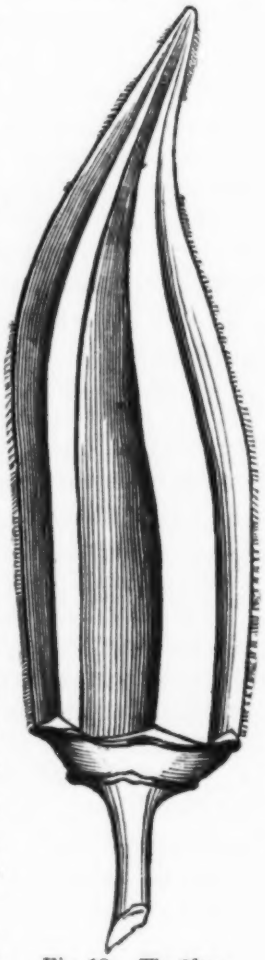

Fig. 18. *The Okra.*

When used in soups, the pod is cut into bits about a quarter of an inch long, and a handful of these is sufficient for soup for a dozen persons. The pods when tender, of the size just mentioned, are also *stewed* and served up with butter, and if preferred a little nutmeg, which is a very agreeable dish.

The Okra or Gumbo is considered an ex-

cellent addition to almost any kind of meat soups, but there are some soups especially dignified as *Gumbo Soups* at the south, both from their admitted excellence, and their containing a liberal supply of the Okra. From among them, we have selected the following—a favorite New-Orleans *potage*—the recipe of which, *apropos* of Okra—we present to our readers as producing one of the most capital soups in the world:

GUMBO SOUP.—Take a fowl of good size, cut it up, season it with salt and pepper, and dredge it with flour. Take the soup kettle, and put in it a table spoonful of butter, one of lard, and one of onions chopped fine. Next fry the fowl till well browned, and add four quarts of boiling water.* The pot should now, being well covered, be allowed to simmer for a couple of hours. Then put in twenty or thirty oysters, a handful of chopped okra or gumbo, and a very little thyme, and let it simmer for a half an hour longer. Just before serving it up, add about half a table spoonful of *feelee* powder.† This soup is usually eaten with the addition of a little cayenne pepper, and is delicious.

To those of our readers who may be inclined to marvel at our attention to soups, we must beg to bring forward as our illustrious prototypes, Gen. SCOTT, M. SOYER, and Baron LIEBIG.

Gen. SCOTT has shown to the country, that with enemies both in the front and rear, there is yet time for a man of genius to take—hastily to be sure—his plate of soup. M. SOYER, the *artiste* of the Reform Club House, went out to Ireland, and established his claim to the gratitude of philanthropic posterity by his model soup-kitchen, by which thousands of starving sons of Erin are supplied with nourishing food at an incredibly small expense. And finally, Baron LIEBIG, the world-renowned chemist, has just written a letter to Mr. EVERETT, in which he unfolds the whole *philosophy of soup-making*, and indeed of cooking meats generally. As there is really sound practical "information for the million" in his remarks, as well as some chemical novelty, we shall venture to extract a large portion of his letter for the benefit of our readers.*

"If you leach finely chopped meat with cold water, you procure a red fluid, and a white residue. The latter is the actual muscular fibre, and the solution contains, besides the above named bodies, a considerable quantity of albumen, that may be separated as coagulum by heating the fluid to boiling.

"I have found that the residue (the muscular fibre) either for itself, or boiled with water, is tasteless, and that the water in which the fibre has been boiled derives no taste. The fibre, by boiling, becomes hard and altogether unpalatable.

"All the ingredients having odor and taste, may of course be abstracted with cold water. They are contained in the flesh-fluid of slaughtered animals.

"You will not wonder, my most respected sir, if I now turn to receipts for the kitchen.

"It follows from the above, that one can make for himself the best and strongest broth (*Fleisch-brühe, Bouillon de viande,*) if, e. g. a pound of finely chopped (minced) beef with a pound (pint) of *cold* water be carefully mixed, and then slowly heated to boiling, and the fluid separated from the solid parts by pressing through clean cloth. This broth, with the usual condiments (broiled onions, vegetables, salt, etc.) added,

* We give the receipt as it is used, but think it better if *cold* water were added.

† *Feelee powder* is made of the leaves of sassafras, dried in the shade, and then pulverised very finely. It gives an exquisite flavor to this soup.

* For the remainder, see *Silliman's Journal of Science*, July 1847.

will furnish a dish beyond the criticism of the most fastidious gourmand.

"Longer boiling will *not* necessarily make the extract stronger. If the broth be slowly evaporated over a water bath, it will become brown, and assume a fine taste like broiled meat. If evaporated (by exceeding gentle heat) to dryness, it yields a brown mass, of which upon a journey, for example, half an ounce would convert a pint of water into the strongest broth. By boiling a piece of meat in the water, a separation of the solution from the insoluble ingredients takes place. The soluble ingredients go into the extract—the broth—the soup. Among these, besides those bodies mentioned above, are the alkaline phosphates. The thoroughly boiled meat contains no alkaline phosphates.

"Now as these latter salts are necessary for the formation of blood, it is clear that the *fully boiled** meat, by the loss of them, loses its capacity to become either blood, or through blood to become flesh; *it loses its nutriment when eaten without the juices —the extract.*

"In this extract the materials for the formation of albumen and fibrin are both wanting. *Alone*, also, it is not nourishing. *The method of roasting is obviously the best to make flesh the most nutritious.* But as the extract—the broth—contains *all the ingredients of the acid gastric juice*, it may, perhaps, be the best agent to aid the process of digestion in cases of dyspepsia.

"Finally, I have found that the brine which forms in the salting of meat, contains all the ingredients of the flesh-fluid. The composition of salted meat is essentially different from that of fresh meat,—inasmuch as phosphoric acid, lactic acid, and the salts of these acids—together with creatine and creatinine are abstracted by being packed down in salt. The salted meat becomes partly reduced, by this process, to a mere supporter of respiration.* This may be a source of scrofula, where by eating salt meat, the replacement of the wasted organism is but imperfectly effected—where it loses its constitution without regaining it from the food.

"The temperature in the interior of a piece of meat to be boiled or roasted, rarely exceeds 212° Fahrenheit. The meat is done and palatable when it has been exposed to a temperature of 144° F., but it is in this condition red, like blood. The blood-red places—the undone portions—were subjected at the highest to a temperature of only 140° F. At 158° to 162° F. all these places disappear. At 212° F. the fibre breaks up, and becomes harder. The crusty property of the meat in chewing, depends upon the quantity of albumen, which in a coagulated condition, permeates the fibre. The flesh of old animals is deficient in albumen.

"If a piece of meat be put in cold water, and this is heated to boiling, and boiled till it is 'done,' it will become harder, and have less taste, than if the same piece had been thrown into water already boiling. In the first case, the matters grateful to the smell and taste, go into the extract—the soup; in the second, the albumen of the meat coagulates from the surface inward, and envelops the interior with a layer which is impermeable to water. In the latter case the soup will be indifferent, but the meat delicious."

The pith of the foregoing "facts in physiological chemistry," for the domestic economist, we take to be concisely as follows:

1. Soup should always be made by putting the meat in cold water, and *simmering* not boiling it.

* By this term, it is intended to convey the idea of boiled till no further change occurs, or nothing is extracted.

* Liebig divides food into two kinds. One serves in the formation of tissues; the other goes to sustain animal heat—as sugar and fat. The latter supports respiration.

2. Meat thoroughly boiled in this way, itself loses all, or nearly all, its nutritious qualities, which pass into the soup or extract. But eaten along with the soup, both are rendered more nourishing.

3. Soup, *properly made* in this way, assists the digestive organs.

4. *Roasting* is, of all modes of cooking meat, that which presents it in the most nutritious form.

5. Boiled meat is far the most nutritious and palatable, when it is cooked by putting it into *boiling* water.

6. Too great use of salted meat has a tendency to waste and impair the bodily frame.

If M. Soyer were to travel through the United States, he would tell our country hotel keepers, that to make good soup, they must use cold water—simmer, and not boil—and always make it a day before it is wanted, so that all fatty excess can be taken off after it is cooled. This gives the pure, clear, nourishing broths of the French kitchen, instead of the washy mixtures often seen under the name of soups.

To come back to the *Okra*, we may observe in conclusion, that it is easily preserved for use during the whole year, by cutting the pods into narrow rings or sections, and drying them. At the south, they are seen hanging on strings at the doors of the cottages, much in the same way that dried apples are in many parts of New-England.

NOTES ON AMERICAN GRAPES.

BY W., ALBANY.

Dear Sir—I observe that neither in the agricultural journals nor in the Horticulturist, has anything been said which may be taken as a guide by persons at the *north*, wishing to select the most desirable native grapes for their gardens.

I speak now more especially with respect to the comparative *hardiness* and productiveness of the different varieties to be found in commercial gardens; for it must be observed that, as most of the sorts cultivated are *southern* in their origin, they are not entirely hardy so far north as the latitude of this city.

I should be glad, therefore, to contribute something towards this needed information, hoping that others, in different sections, may offer you also the results of their experience.

I will begin by saying, that the *Isabella* and *Catawba* are the two native sorts which succeed best here under all circumstances. The *Isabella* is the hardiest, and will usually ripen a full crop in almost any situation. The *Catawba* also ripens fine crops in the sheltered yards of the city, but cannot be depended upon for doing so as far north as this, except in warm aspects—such as the south side of buildings, etc.

There is a variety of the Isabella known as the *Clinton grape*,* which is said to have originated in the town of this name in this state, which is much hardier and *earlier* than the Isabella; and though it is not, perhaps, worthy of much attention farther south, where the Isabella always ripens well, it is considered a valuable variety here.

Though the Isabella and Catawba are treated as hardy here, and will stand our winters usually, I have found that they bear better crops when the vines are covered at the approach of winter.

* Will some friend send us some specimens of the fruit and leaves of this variety, and some account of its origin?—Ed.

Bland's Virginia grape is found too tender and too late in its maturity for the climate of Albany.

I am sorry to be obliged to add, that judging from the experience of two winters, the *Ohio*, or *Cigar-Fox Grape*, will also be found too tender for us. It has been twice killed to the ground in a garden in the suburbs of this city.

I have found that the hardiness and productiveness of the native grapes in the heavy clay soil of my garden, are greatly augmented by digging trenches, like drains, three or four feet broad, and three feet deep, when making borders to plant the grapes. These trenches should be filled about a foot deep with small stones, and then with a layer of bones upon the top, if they can be had. Upon these fill up with good rich soil. The drainage (the drains should have a fall and outlet,) will keep the roots dry, and the vines will stand the winter's cold better, and ripen their fruits earlier as my own experience has satisfied me.

It appears to me that the improvement of the northern species of grapes found in the woods, would be well worthy the attention of horticulturists. The common summer and fox grapes, though they are so pulpy and rough as to be unpalatable, may they not be improved by taking them into the garden? We might then have perfectly hardy grapes, even for the latitude of Quebec. Pray suggest this to your experimenting readers, and believe me your friend.

W.

Albany, August, 1847.

P. S. What is the character of *Norton's Seedling?*

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Remarks.—Although Albany is scarcely a degree and a half of latitude north of us, we have found, as our correspondent states, that its climate is much more severe upon plants than this part of the Hudson.

The Isabella and Catawba are both perfectly hardy here, and the latter, in open situations, never fails to ripen a fine crop. The same remark applies to the Bland grape, which, however, is one of the latest varieties. The Ohio proves quite hardy and productive here, and though the fruit is small, the bunches are large, and the flavor is agreeable. *Norton's Seedling* is hardy, and may be a good wine grape, but it is harsh and unpalatable to the taste.

The experiment of cultivating our northern wild fox grapes, with a view to improving the quality of their fruit, has already been fully tried by the late Prof. Gimbrede of West Point. That gentleman, full of zeal in vine culture, collected, fifteen years ago, every known variety from our woods, and cultivated them in his garden, manuring, stimulating and pruning them with great care, in the hope of changing and ameliorating their character. The experiment was, as might have been expected, a failure, although the fruit was greatly increased in size, some of the sorts of fox grape being larger in the berry than the largest Black Hamburghs, yet the flavor and original rough taste of the species remained unchanged, and the fruit was, in fact, as unpalatable as at first.

To improve wild grapes of the woods, the *seeds* must be planted; and when the seedlings come into bearing, by selecting such as show a *tendency to vary* from the wild state in leaf and fruit, and sowing their seeds, it is probable that new and improved varieties would soon be produced. This result, however, would be much more certainly and speedily attained, if the wild vine blossoms were *crossed* or *hybridized* with some of the best foreign sorts.—Ed.

FIVE NEW OHIO CHERRIES.

BY F. R. ELLIOT, CLEVELAND.

[Mr. Elliot has left with us, for publication, the following descriptions of the new seedling cherries originated by Dr. Kirtland, the most successful amateur cultivator in northern Ohio. They are accompanied by faithful outlines, made from average specimens of the fruit; and both descriptions and outlines are the result of two seasons' observations of the varieties in a bearing state.

Dr. Kirtland's collection embraces most of the finest old European sorts, and from his critical observation, and the fact that the following new sorts have been selected by himself and Mr. Elliot from a great number of seedlings of considerable merit, we may be safely allowed to anticipate, that they will prove an important addition to our list of valuable standard cherries. It will be observed, that among these are sorts remarkable for very *early* and *late* maturity. —Ed.]

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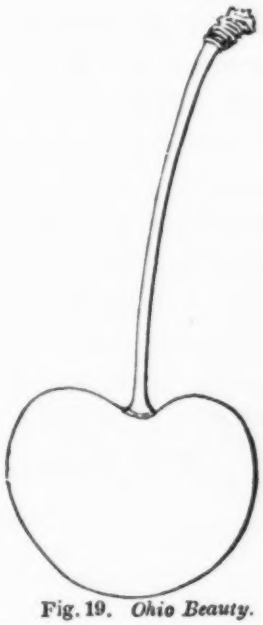

Fig. 19. *Ohio Beauty.*

1. Ohio Beauty. A heart cherry. This is really a most beautiful fruit. It is as large as Napoleon Bigarreau, with the superiority of being tender-fleshed, and ripening *ten days earlier*. Fruit large, oval, flattened, heart-shape. Colour, dark red on a pale red ground, somewhat marbled. Stalk long 1½ inches, rather stout and set in a deep open cavity. Flesh white, very tender, delicate, juicy, with a fine flavor. Pit small, oval, roundish-oblong, with a sharp edge round its centre. [No. 7 of Dr. Kirtland's private catalogue.] Ripe about the fifth of June.

2. The Doctor. This fine new sort is one of the earliest of cherries, and one of the best. It very much resembles the American Heart, but ripens two weeks earlier

Fig. 20. *The Doctor.*

than that cherry. The tree is spreading, of moderate growth, the leaves narrow, bears in clusters and is very productive. A Heart cherry. Fruit as large as American Heart. Form roundish heart-shape. Suture extends quite round the fruit. Colour light yellow and red, beautifully blended and mottled. Stalk an inch and a half long, neither slender nor stout, set in a round regular cavity. Flesh white, juicy, tender, sweet, and of a delightful flavor. Ripe first of June. [No. 22, Dr. K.'s Catalogue.]

3. Kirtland's Mary. A high flavored fruit, as large as the Napoleon Bigarreau, ri-

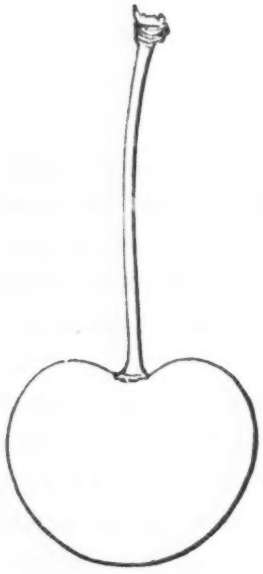

Fig. 21. *Kirtland's Mary.*

pening with the Elton, more hardy and easy of culture than the latter is with us here, and equal in other respects. A bigarreau cherry. Fruit large, roundish-heart shape, very regular. Colour light and dark red, deeply marbled on a yellow ground—the dark red preponderating. Stalk an inch and a quarter to an inch and a half long, slightly curved, moderately stout. Flesh light yellow, half tender, rich, juicy, sweet and high flavored. Ripens in medium seasons with the Elton. [No. 17, Dr. K.'s Catalogue.]

4. Elliot's Favorite. This cherry is certainly as beautiful as the celebrated *Belle de Choisy*, and it is larger, equally delicate in flavor and texture. The tree resembles the American Heart, and is a strong grower. It ripens a few days later than the latter variety. A Heart cherry. Size medium, form round, very regular, slightly compressed. Stalk of medium length, from an inch and half to two inches, inserted in a regular even cavity. Colour a pale amber yellow, with a bright carmine-red cheek marbled. Flesh pale amber colour, transparent, tender, exceedingly delicate, juicy and sweet, with a fine high flavor. Pit small, angular, smooth and regular on the surface. [No. 3 of Dr. K.'s Catalogue.]

Fig. 22. *Elliot's Favorite.*

5. Late Bigarreau. This must prove a valuable late variety, since it is as large as the *Bigarreau*, and as late as *Downer's Late*. In character it embraces the *Bigarreau* and *Downton*, partaking apparently of each. The stalk is inserted like the Downton, while it is broad like the Bigarreau. Fruit large, obtuse heart-shape. Colour a rich yellow ground, with a bright red cheek, or frequently the red covering nearly the whole surface; occasionally it is blotched or mottled. Stalk pretty uniformly an inch and a half long, inserted in a deep, open, regular cavity. Flesh yellowish, firm, juicy, rich, and of agreeable flavor. Pit rather small, quite round, surface pretty smooth and regular. [No. 1 of Dr. K.'s Catalogue.]

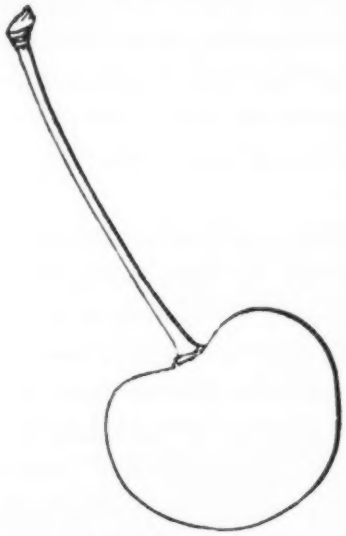

Fig. 23. *Late Bigarreau.*

F. R. Elliot.

Cleveland, Ohio, Aug. 1847.

REMARKS ON GARDENING AS A SCIENCE.—No. 4.

BY DR. WM. W. VALK, FLUSHING, L. I.

"It is quite evident," says LIEBIG, "that the quantities of carbonic acid and oxygen in the atmosphere, which remain unchanged by lapse of time, must stand in some fixed relation to one another; a cause must exist, which prevents the increase of carbonic acid, by removing that which is constantly forming; and there must be some means of replacing the oxygen which is removed from the air by the processes of combustion and putrefaction, as well as by the respiration of animals. Both these causes are united in the process of vegetable life."

Carbonic acid, or fixed aërial acid, is the inevitable product of combustion and respiration; and the atmosphere is the recipient of the gas so produced. Any one may convince himself that it is always present, by exposing a little pure fresh burnt lime, or a glass of strong and clear lime water, to the air, for a few days. Neither of these would hiss, (effervesce,) were a drop or two of any acid applied to it; but after being so exposed to the air for some time, the lime would be converted to carbonate of lime, and the lime water would lose its pellucidity (clearness,) and be covered with an insoluble brittle scale. Both would effervesce with the extrication of frothy air-bubbles; and these changes are produced by the attraction exerted by the pure lime upon the carbonic acid of the atmosphere, which causes a union of the two, and the formation of that neutral salt of lime, commonly known by the term, chalk. If an estimate is wanted of the actual quantity of this acid contained in the air, let us again turn to LIEBIG.

"The air contains in maximo, $\frac{66}{10000}$ of carbonic acid, and $\frac{21000}{1000000}$ of oxygen gas. A man consumes in one year 166,075 cubic feet of oxygen gas, (or 45,000 cubic inches in one day, according to Lavoisier, Seguin, and Davy;) a thousand million of men must accordingly consume 166 billion cubic feet in one year; this is equal to $\frac{1}{1000}$ of the quantity which is contained in the air in the form of carbonic acid. The carbonic acid would thus be doubled in a thousand years, and man alone would exhaust all the oxygen, and convert it into carbonic acid, in three hundred and three times as many years. The consumption by animals and the process of combustion is not introduced into the calculation."

There is not, perhaps, in the whole economy of wonder-displaying nature, a fact more conclusive, more simple, and yet more astounding, than the one which the foregoing extract reveals. For if some agency were not unceasingly at work to withdraw that volume of poisonous gas, which every act of combustion and respiration pours into the air, the whole would inevitably be converted into a pestilential vapor. *Nitrogen* is destructive of breathing life, and of it we have seen that no less than four-fifths of the entire atmosphere consists; the remaining fifth of oxygen is the sole meliorator—and of it every breath we inspire consumes a portion. Then, "how does it happen that the proportion of oxygen in the atmosphere is thus *invariably the same?* Carbon and the elements of water form the principle constituents of vegetables; the quantity of substances which do not possess this composition being in very small proportion. It is therefore certain, that plants must pos-

sess the power of decomposing carbonic acid, since they appropriate its carbon for their own use. The formation of their principal component substances must necessarily be attended with the separation of the carbon of the carbonic acid from the oxygen, which *must be returned to the atmosphere;* whilst the carbon enters into combination with water or its elements. The atmosphere must thus receive a volume of oxygen for every similar volume of carbonic acid which has been decomposed."

Thus reasons LIEBIG; yet upon this *great miracle* of nature he advances no novel idea; he only brings us back to the observations of SENNEBIER, Dr. PRIESTLY, DE SAUSSURE, and others; but his modes of proof, his deductions from calculation, are his own. That many have doubted the grand facts which he has confirmed, is as true as it is lamentable; for there is not in all creation one other traceable agency, by which the destructive increase of carbonic acid could be prevented, if we deny it to vegetable vitality! "The life of plants is closely connected with that of animals, in a most simple manner, and for a wise and sublime purpose. The presence of a rich and luxurious vegetation may be conceived without the concurrence of animal life; but the existence of animals is undoubtedly dependent upon the life and development of plants."

Plants not only afford the means of nutrition for the growth and continuance of animal organization, but they likewise furnish that which is essential for the support of the important vital process of respiration; for besides separating all noxious matters from the atmosphere, they are an *inexhaustible source of pure oxygen*, which supplies the loss the air is constantly sustaining. Animals, on the other hand, *expire* carbon, which plants *inspire;* and thus the composition of the medium in which both exist, namely the atmosphere, is maintained constantly unchanged.

This beautiful reciprocity speaks volumes: it sets aside that weak appeal to the agency of *humus*, which has of late years been so imperiously urged. The presence of manuring matter in the soil, and the important changes which it operates, have doubtless tended to blind us to the more important agency of the atmosphere; but why decaying vegetable matter, whose decomposition is effected by the agency of the air and moisture, should be identified with the *artificial humus of the laboratory*, is a mystery. If such be the results of the application of chemistry to the theory of agriculture, we are free to confess, that we should prefer the ignorant routine of our forefathers. They pay a poor compliment to science, who thus misapply its discoveries.

As applied to the nutriment of vegetables, DR. LIEBIG has thus far been followed in his leading principles of chemical philosophy: his last great proposition being this—that plants derive their nutriment chiefly *from the atmosphere;* during and by which process they purify the air, absorbing that gas which would otherwise so accumulate as to become destructive to animal life.

The hypothesis is startling, because it overturns all our ideas previously entertained, respecting the source and channels of the nutrimental sap. It remains then to investigate a little more minutely *the agency of manures*, and to discover, if it be possible, the effects which *they* produce upon plants in the different stages of their growth. By the term *manure*, we wish it to be understood that we mean *every substance which is decomposable in soils*, and capable of being resolved into the elements of water, (*oxygen* and *hydrogen*,) of carbonic acid,

(*oxygen and charcoal or carbon,*) and of ammonia, (*hydrogen and nitrogen.*)

We make no allusion to manure in its limited sense, as applied agriculturally, but look at it broadly in its most simple, as well as most complicated form; and therefore, to make a commencement, we refer to that most feeble of all substances employed by the gardener, usually styled *peat*, and formerly called *bog earth.* This black-greyish or brown soil consists chiefly of white siliceous sand, mixed with varying portions of fern, bog moss, (sphagnum,) heath leaves, rushes, or similar matter, in a condition of progressive decay. It is seldom used fresh, but usually laid up in heaps to mellow, for woe be to him who shall touch it in *its pristine state.* Buried in the darkness of ages, swamped with water, and of a butyraceous compact texture, it is incapable of affording support to any plant but the miserable herbage upon its surface. Yet this crude earth is a *mine of manure*, and by the operation of air, light, and atmospheric electricity, it is meliorated, and becomes qualified to support all the hair-rooted tribes which are now so ornamental in our best gardens. To one ignorant of chemical principles, and who shall use it fresh, the consequences are inevitable; "it burns every root it touches,"—the plant dies.

This "burning," which is a word in common use, is false in application, though its effects are apparent. Plant an Azalea in fresh peat, and in a few days, the points, then half the leaves, become brown, the shrub ceases to grow, the leaves fall, and it perishes. But keep this *same soil* during two seasons exposed to the weather, turning it occasionally, and the same species which would perish in it while fresh, now grow, and thrive luxuriantly. To what then is this "burning" attributable? To the effects of gaseous developments, produced by progressive decomposition of the redundant vegetable matter. In farm-yard dung, *ammoniacal* gas is copiously extricated, but in peat or heath soil, some neutral salt of iron exists, (the sulphate probably,) which is gradually decomposed, loses its acid, and becomes an innocuous oxide.

But this is a digression, though one which involves many curious phenomena—it is our object to show, that simple as is this heath soil, an Azalea, a Rhododendron, an Erica, or Andromeda, may grow in a pot of it for years, and never exhaust it of any portion of its "humus" or black vegetable matter. If any discernable alteration takes place, the tint becomes darker, as if finely powdered charcoal had been added to it. True, the plant will require fresh aliment and more space, but not because the soil is exhausted. The vegetable adds to the soil, or rather ejects into it fœcal and excrementitious substances, which consequently cannot be taken up a second time with impunity into its organic tissue.

It is every day becoming more and more apparent, that soils are *changed* by cropping, *but never exhausted.* The earths proper—alumine, sand, lime and oxide of iron—may be taken up, *to a very small extent*, in a state of solution in water, but they retain their qualities in the mass, the *soluble* salts of the soil—potassa, soda, and their sulphates, nitrates and muriates, or ammonia and its salts—these are the substances which vanish, and must be renewed by manures. We, therefore, urge upon our horticultural friends, to examine strictly all the earths they employ before they plant in them, and at every shifting. By thus investigating, a person may soon satisfy himself, that a soil becomes replete with specific odors, that its texture is changed, and its nutrimental power deteriorated, *as respects the individual plant*, while it becomes ex-

tremely congenial to another of *dissimilar* habit; but that in every case the soil rather acquires depth and intensity of tint than the contrary—that it loses little in bulk, which little may be safely referred to wastering and solidification—and therefore that the *humus* has not diminished in any degree by the absorbent powers of the roots.

WM. W. VALK, M. D.

Flushing, L. I., Aug. 8, 1847.

THE BEST EVERGREEN HEDGE.

BY ROBERT NELSON, OF NEWBURYPORT, MASS.

THE first settlers of the United States, after having cut down the forests, surrounded their fields with rail fences, as the easiest and cheapest way of enclosing them. Turning up their soil, and clearing it from rocks, they considered it a good plan to build stone walls, as cheap but equally imperfect. These require continual repairs, and instead of protecting the fields from cattle and plundering bipeds, they rather seem to invite all such to cross the fields and pull them down. Made in a more durable way, they are very expensive, and even the best of them, such as are to be seen on Indian Hill, near Newburyport, look like a small imitation of the Chinese wall, or some fortification constructed by the "outer barbarians;" and still there are persons, (who would believe it?) that will say, "if you want a live fence, then build a good stone wall, and then you may plant a hedge close to it." Such men, I am sure, never had any idea of a well trimmed hedge.

Though the taste for improvement and embellishment is coming on with giant paces, the more intelligent people begin to abandon this barbarous mode, and it is now the question which plant is the most suitable. For the southern states the Osage Orange is highly recommended; for the eastern states the Buckthorn (*Rhamnus catharticus*,) and among the deciduous shrubs it may be the best; but there is another plant, an evergreen, perfectly hardy, and of the easiest culture, which I cannot too strongly recommend to your readers. I mean the Norway Spruce, (*Pinus abies*, Linn.)

For an ornamental evergreen hedge, the Arbor Vitæ, *Thuja occidentalis*, has been recently brought into use, and may be seen in high perfection in Mr. DOWNING's grounds at Newburgh; but though it forms a beautiful thick screen, yet it is not strong and close enough to make a hedge that will be a *thorough defence against man and beast.*

The Norway Spruce, highly useful for the gardener as well as for the farmer, for protection as well as for ornament, is a native of Norway and Sweden, and was introduced into England in the middle of the sixteenth century. In its native country, it may be seen growing in the roughest and wildest places, on gravelly soil as well as on peat ground; on deep sand as well as on the most barren rocks. Indeed, if it can only find a small cleft to strike its roots; and although some English authors consider it only fit for a "sheltered situation," it may be seen exposed to all the storms that rage on the western coast of Norway between the sixtieth and seventieth degrees of north latitude, often atttaining a height of 150 feet: thus its hardiness cannot be doubted for any part of the eastern states.

This tree, in Denmark, in a climate much like that of Boston, is often used for hedges. I have seen them there from five to fifty years old; and I have planted and managed several thousands of yards of it as hedge.

No evergreen bears trimming better than the Norway Spruce. It may be cut into any shape, and after a few years' trimming it presents a strong green wall of great power of resistance.

I am, therefore, quite confident, that it will prove a first-rate and beautiful hedge plant for New-England.

Raising Plants.—This tree is only raised from seed, which, when sown in drills early in spring, in light sandy soil, soon vegetate, but as the young plants carry the seed on the top of the fruit leaves, they are apt to be destroyed by birds, and will want protection for some time. The easiest way to do this, is to cover the seed bed with some brushwood. As the plants in the first summer have but tender roots, the powerful sun and drouth of America will undoubtedly scorch them, and it is, therefore, always advisable to sow them in a *shady situation.* The second spring they ought to be transplanted to six inches distance from each other, in order to form nice stocky plants, and thus better fit for a hedge. This is seldom performed in the commercial nurseries, where they commonly remain in the seed bed for several years, in order to save space and trouble, but these plants are much inferior to the first mentioned.

Planting.—When two or three years old, and having attained a height of about from one to two feet, the seedlings are to be transplanted where they are wanted for a hedge. It will be remembered, that manure is almost death to the Norway Spruce, which is most fond of sandy, or still better, gravelly soil, and I have known hedges of this tree to grow most admirably, when planted on sunk fences. Where the soil is very rich, it would be well to dig the trench pretty deep, and fill it with small rocks to the depth of six inches. The transplanting should be done in spring, and it need not be very early; even the middle of May is often not too late, unless we should have a very forward season. Transplant with as large a ball of earth as possible, or else be careful to get all the roots, and not to let them dry; press the ground about the roots, but not too firmly; water directly and plentifully, which will settle the ground best around the roots; and afterwards occasionally in a dry season, till they begin to grow. If wanted for an ornamental hedge in a garden, to grow only about four feet high, the plants ought to be set out from nine to twelve inches apart; but when the hedge is wished to grow six or seven feet high, they must be planted one foot apart.

For an outside hedge, as a protection against cattle, or for subdivisions in the fields, where they are desired to give shelter against high winds, I would advise the choice of plants two feet high, and that they be planted two feet apart. As soon as the hedge is set, it will be necessary to protect it with a few rails for a couple of years.

Finally, I must mention, that, if the hedge is to be planted on a very windy, rude and exposed situation, it will be of no use to take seedlings from a sheltered place in a nursery. Such a hedge will never do well, unless *raised from seed on that very place,* and afterwards thinned out; and if this could not be done, the seedlings must be raised in a similar open situation, exposed to any change of weather; and probably this may be the reason why the English authors incorrectly think the Norway Spruce not perfectly hardy when exposed to high winds.

Although many gardeners and nursery-

men recommend the planting of hedges in double rows, still, for several reasons, I most decidedly prefer to plant only single rows.

Trimming.—A good hedge ought never to be trimmed in any other way than in a conical shape. Nature teaches us best, and a very little observation, I think, shows plainly that this is the natural way. It may be considered tasteless and absurd, to trim a hedge in a square form, in point of beauty, or, still worse, broad at the top and narrow at the bottom; but when we reflect that the growth of the bottom of the hedge is checked and stifled by allowing it to be broadest at the top, reason should teach us to abandon that mode on the ground of unfitness.

As soon as planted, stretch a line, and with a hedge shear trim both sides in a convenient *conical form*, leaving the top till the hedge almost has attained the desired height.

A well trimmed hedge in a small garden, four feet high ought never to be broader at the bottom than twelve inches, and should slope to the top in a very acute angle. For each foot higher it may be allowed to grow two or three inches broader at the bottom, and in that proportion at any height. In this way only, every shoot will enjoy the full benefit of air, light and moisture, and by this simple and natural method, you will, in a short time, form a hedge such as I have often seen, as green and close from bottom to top, that even a sparrow could not without difficulty pass through it.

A hedge, until it has attained the desirable size, may be trimmed at least twice in a summer, with a hedge shears; afterwards it can be much easier, more quickly, and as well done, with a sharp sickle or hook.

ROBERT NELSON.

Indian Hill, near Newburyport, Aug. 9, 1847.

.....

[The remarks of our Danish correspondent are worthy of attention. The vigor, hardiness and rapid growth of the Norway Spruce appear to us well calculated to render it a capital evergreen hedge plant. Mr. NELSON assures us, that he has seen them shorn into "strong walls of verdure," and we know there are few trees so admirably adapted to form thick screens for shelter in windy or exposed situations. When of small size, they are very easily transplanted. The Norway Spruce, though it be found in most of our nurseries, is not yet grown in sufficient abundance to be offered cheaply as a hedge plant, being in demand principally as an ornamental tree. But in the English nurseries, such as that of SKIRVING of Liverpool, RIVERS of Sawbridgeworth, etc., where it is extensively grown for timber plantations, it may be purchased in any quantity—the plants one to two feet high—for about thirty shillings, (say seven to eight dollars) per thousand.

Autumn is much the best season for importing evergreens, and we recommend some of our leading nurserymen to import a large stock of the Norway Spruce, of small size, grow it one season here, and offer it for hedges at a moderate rate.—ED.]

TREES IN GRASS GROUND.—An exchange says, that when trees grow in grass ground, it is well to remove the sod in the fall two or three feet round the tree, and then apply half a wheelbarrow load of manure; the winter rains and snows will wash the strength of the manure to the roots. Scatter the manure under the tree in the spring, and add leached ashes. This will have a tendency to keep down the weeds and grass; but as when they grow, they will grow strongly, the spade must be kept in use

A FINE NEW SUMMER CLIMBER—THE MANY-FLOWERED STEPHANOTIS.

The annexed engraving represents a portion of a shoot, showing the leaves and flowers of the new Madagascar climber, *Stephanotis floribunda*, which is, at the present moment, looked upon by amateurs as the greatest acquisition among the floral novelties of the season. "Beautiful in the extreme, and possessing a most delicious fragrance, this fine climbing plant," says the last London Horticultural Magazine, "is admired by all who know it. Its beauty is derived from the contrast presented between the pearly whiteness of its profuse and handsomely formed blossoms, and the deep green hue of its ample and enduring leaves; and this beauty, supported as it is, by a most exquisite fragrance, gives it an indisputable claim to the high estimation in which it is held."

Mr. Paxton, in his Magazine of Botany, remarks, that it is next to impossible to overrate its merits, they are so essentially sterling. Besides having a most elegant climbing habit, it bears dark shining foliage, of a pleasing order, and from the axils of this, the delicate creamy white blossoms are protruded in large umbels. The texture of the flowers being very firm, they last a considerable time, and their odor is exceedingly delicious.

The Stephanotis being a native of Madagascar, of course loves a high temperature. Indeed, the English look upon it essentially as a stove or hot-house plant. "One drawback alone," says the editor of the journal first quoted, "is attached to its high recommendations; it is a tropical plant, and must be cultivated in a hot-house."

We are very happy to be able to assure our American readers, that we have, at this moment a fine plant of the *Stephanotis*, which has been growing in the open border since the middle of May, trained on a frame about eight feet high, which it now fully covers, and that it has been adorned with its charming white blossoms for the last two months.

Although, therefore, there is no doubt that it will grow with perhaps still greater luxuriance in a hot-house, we have no hesitation in claiming, for the open ground in this climate, this fine plant as a decided acquisition to the class of beautiful summer climbers, among which we already number the Maurandias, the Calampetis, the Cobeas, etc., all rapid growing tropical plants, which when propagated in midsummer or early autumn by cuttings, and the latter kept through the winter in a common green-house and planted after all danger of frost is over, will clamber over trellises, light summer-frames, columns or arches, and cover them with wreaths of foliage and blossoms, from midsummer till late autumn.*

The Stephanotis belongs to the natural order *Asclepiadaceæ*, to which the several well known species of Asclepias, and the Hoyas or Wax-plants also belong. It has the milky juice of many of the individuals of this order, but the flowers are larger than is common in the group of plants composing it. The leaves are elliptical, opposite, rather glossy and thick; the umbels or clusters of flowers, are borne on a peduncle or stalk, which springs out of the main stem, from between the bases of the leaf stalks. The flowers are salver-shaped, with the top divided into five segments, and with a cylindrical tube, which is swollen at its base.

* We first saw this plant in high perfection, bearing many thousands of blossoms, last season at the fine residence of S. Howland, Esq, near Greenburgh, Westchester county, N. Y. It was trained under the roof of a vinery, where it grew in great luxuriance. From cuttings kindly presented us by Mr. Howland, we raised several plants very readily.

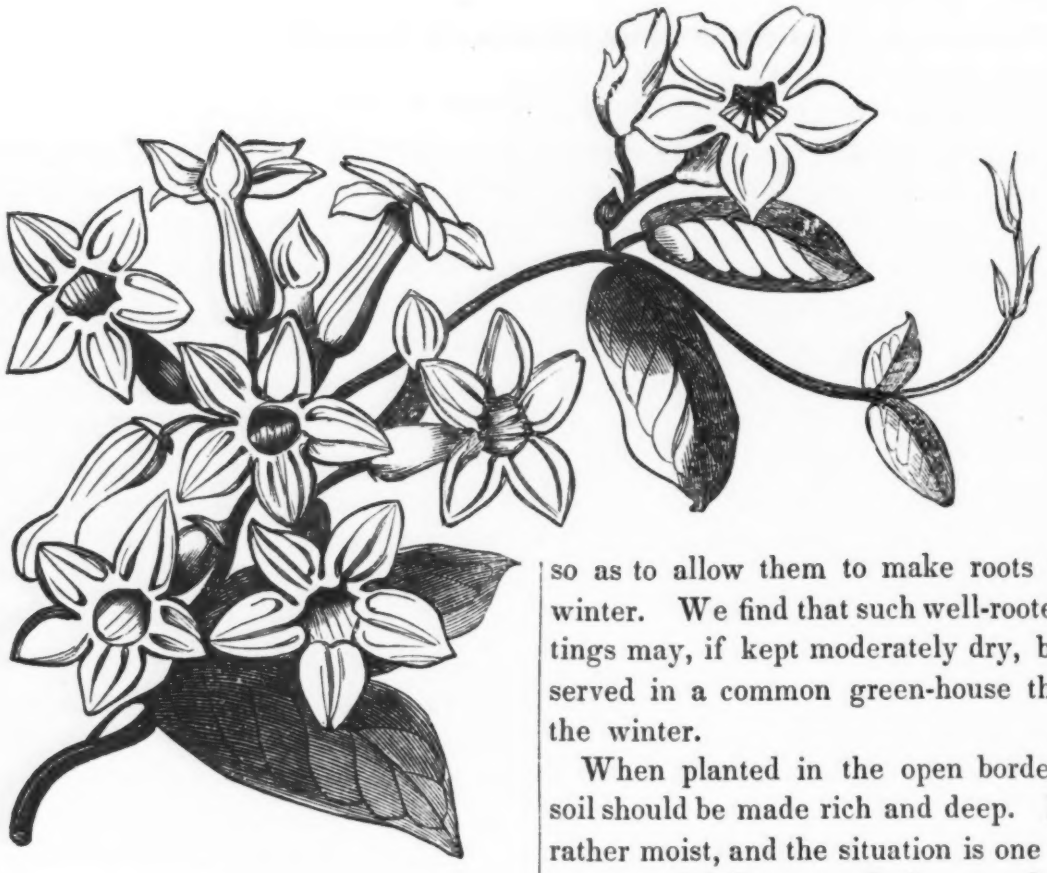

Fig. 24. *The Many-flowered Stephanotis.*

This plant, we find, is propagated with facility, by making cuttings of the ends of the flowering shoots, and planting them in pots of sandy loam,and covering them with a bell-glass, or placing them under a common hot-bed frame, in a shaded situation. When wanted for trellises, etc., in the open border, the cuttings should be planted at any time from July to the middle of September, so as to allow them to make roots before winter. We find that such well-rooted cuttings may, if kept moderately dry, be preserved in a common green-house through the winter.

When planted in the open border, the soil should be made rich and deep. If it is rather moist, and the situation is one rather warm, and fully exposed, the growth of the plant will be the more luxuriant.

As the Stephanotis is a twining plant, when once fairly growing at the foot of fitting supports, it will generally take care of itself; in our hot midsummer weather, it grows quite rapidly. Though yet rare, and seen in only a few choice collections, its beauty of habit, leaf and blossom, added to its perfume, will no doubt soon introduce it to the notice of lovers of fine plants.*

KEEPING CURRANTS AND GOOSEBERRIES.—The Prairie Farmer says, that they have, for several years, practised the following mode, by which the "green fruit" may be kept for any length of time, as good as when first taken from the bushes: "Pick them when fully grown, let them be dried from any dew or rain, and put them into glass bottles, cork the bottles tight, and cover the corks with sealing wax; then cover the bottles partially with sand or earth in the cellar."

* We observe that Messrs. THORBURN & Co. of New-York, are exhibiting pretty specimens of Stephanotis floribunda, in pots, grown at their garden at Astoria, L. I.

HOW TO PLANT STRAWBERRIES.

BY A SUBURBAN GROWER, BOSTON.

This is the time for making new strawberry plantations. Although on the whole I prefer the month of April; yet, as it is not always so convenient at that busy season, August planting is often resorted to, and is, especially with the aid of showery weather, a very good time for setting new beds. In fact, I have generally been fortunate with new set beds as late as the tenth of September; always premising that when plantations are made after the first of August, the beds should be covered with straw at the approach of winter.

It seems to me, that the main point in raising the best strawberries, is the condition of the soil in which they are to grow. Now no one is a more ready subscriber to the importance of trenching, for all plants, than the writer. The roots of the strawberry will run deep in deep soil, and the crops will be abundant and fine just in proportion to the extension of the roots, and consequent health and vigor of the plants.

But the manner of trenching which I practise, and ask leave to recommend, is not the common mode. I think, from experience, that in a light mellow soil, like my own, it is superior to the common mode, and therefore must be allowed to say that it is worthy of the attention of any one about planting strawberries.

It may, as compared with trenching in the common way, be called *half-trenching;* and it is performed in this wise. Having marked off the plat of ground which is to be prepared, make a trench on one side of it, by taking off the soil one spade deep along the whole side, and about three feet wide. Carry this in a wheelbarrow and empty it on the opposite side of the plat, where the trenching is to end. Then cover the earth in the bottom of the trench with a heavy coat of fresh manure or strong compost, and dig the manure under at once. Next begin at the rear of the trench, dig and throw the top soil of the next three feet over on the top of the under layer three feet broad just manured and dug. This will leave three feet width more of new under layer exposed, which manure and dig as before—pursuing this till the whole surface is half-trenched in this way.

This half-trenching doubles the depth of the soil, and invites the roots to run down into the enriched under-layer, while it does not in any way deteriorate the condition of the surface of the ground, as is often the case in many soils where whole trenching is executed, and the bottom spit is turned up and left upon the top.

The plan of growing strawberries which I prefer, is that of the *alternate strips*, described very plainly in your Fruits and Fruit Trees, p. 522. I like it best, because it costs me the least amount of care and labor, and gives me large crops of fruit. I plant the strips three feet wide, and leave a space of three feet between. As I allow the plants to cover and take entire possession of the three feet strip allotted to them, I both get a larger crop, and at less labor of weeding, etc., than can be had when the plants are shorn of runners. As soon as the planted strips have given me one full crop, I dress the open strip, and allow the runners to take full possession of it. This done I spread a coat of compost and ashes over the old strip of plants, turn them under with the spade, and allow it to lie fallow for a year, to take its turn afterwards again.

By half-trenching the ground before planting out strawberries, as I have just explained, I find that my crop of strawberries is certain in years when those in untrenched ground prove a partial failure, and that moreover the berries are uniformly larger and higher flavored.

The kinds of Strawberry which I cultivate and approve most are, 1st. *Large Early Scarlet*, as valuable for its earliness and excellence; 2. *Hovey's Seedling*, among the best of the large berries: 3. *Boston Pine*, an excellent fruit; and 4. the *Old English Red Wood*, one of the greatest bearers, and most delicate flavored, and which bears much later than any other.

Notwithstanding what your correspondent, Mr. Longworth, and others say to the discredit of *staminate* varieties, I know from experience, that some staminate sorts, and among them the Boston Pine, bear excellent crops with the culture I have pointed out. It is probable enough that in a rough way and left to itself, it may not yield so heavily as pistillate sorts will with the same *neglect;* but as I have, with half-trenching, raised a better crop of it than some of my neighbors have of Hovey's Seedling, and as I prefer the flavor of the Boston Pine, I shall not give it up on account of the present clamor against strawberry plants that bear stamens.

I find that pistillate sorts, like Hovey's Seedling, when planted in alternate strips with the Large Early Scarlet, are always well fertilized without any admixture of staminates in the same strips with themselves. I am very respectfully yours, etc.

A Suburban Grower.

Boston, Aug 2, 1847.

ON TRANSPLANTING EVERGREENS.

BY ANDREW SAUL, HIGHLAND NURSERIES, NEWBURGH.

Which is the best season of the year for transplanting evergreens? is a question almost daily debated, and as there are some persons who have succeeded in getting evergreens to live, when transplanted at this season (August,) who previously failed in spring planting, they arrive at the conclusion that August is the best season for transplanting evergreens.

While we are perfectly satisfied that evergreens can be transplanted in August, or indeed at almost any other season of the year so as to live and thrive afterwards, yet experience has satisfied us that the spring is, all things considered, the best season for performing that operation in this climate.

In the first place, in many evergreens, the young wood and foliage is in a more immature state, and it requires great care to preserve their respiratory organs, which are always in more active operation in the warm summer months, than in the cooler spring months, after being transplanted, by shading, watering, etc. And in the next place rains are less prevalent in August than April, while from the great evaporation going on in the high temperature of midsummer, moisture in a hundred-fold more is required.

The fact of a person succeeding in making a tree live by moving it in August, when he had previously failed to make the same kind of tree live by transplanting it in April, does not prove the former to be the better season for transplanting. Generally persons transplanting in spring bestow

no more pains on evergreens than on the hardiest forest tree; while persons undertaking to transplant evergreens in summer, (say August,) bestow unusual care: in the first place they have them taken up with all the care possible, and have them planted in the same manner, and they also pay unusual attention to the after treatment in shading, watering, etc., should the season require it.

We speak of the month of April, that month being the season at which the growth in evergreens commences in this latitude. Farther south, March would correspond, and farther north May. This point, however, is most important: that evergreens are moved with the most success in the northern half of the Union, when lifted just at the moment their buds are *beginning to swell*, or in other words, just as vegetation has commenced. If taken before this time, while the tree is quite dormant, success is not so certain, for evergreen trees do not possess the same vital energy to commence pushing out new shoots after being disturbed by removal, that deciduous trees do. On this account many experienced planters prefer delaying the transplanting of evergreens till they have fairly started into growth—say of half an inch to an inch at the ends of the shoots. And we must confess that we have had excellent success in removing them as late as May, and when they were considerably advanced.

We are satisfied that the same amount of care bestowed in transplanting a given number of evergreens in April, about the time they first show symptoms of being excited into growth, and just before the buds are developed, that is bestowed upon a like number of trees moved in August, that in nineteen cases out of twenty, success will be greater at the former season of the year, than at the latter. We cannot but think an evergreen tree in April, is in a better condition to be moved, than it possibly can be in August, when, instead of the earth being moist, it is hot and dry; the probabilities of a damp atmosphere, after transplanting, are much greater, too, in spring than midsummer. Every planter is well aware that upon the favorable continuance of cloudy weather even more than rain itself, depends the emission of roots by newly moved evergreens.

Transplanting in winter, with frozen balls of earth, is a well known and very capital mode of moving large specimens of evergreens. It requires time and patience and the co-operation of several hands and a sled with a pair of horses or cattle, etc.; but as trees skilfully removed in this way, suffer but very little by the removal, and as they may be made to produce considerable effect immediately, it is a mode deserving the attention of all ornamental planters. Sir Henry Stewart's advice of choosing trees that stood naturally in an *exposed or open site*, if attended to, will greatly add to the certainty of rapid growth. A. Saul.

Rhubarb or Pie Plant Poisonous.—We have noticed several instances mentioned in our exchange papers, of individuals being dangerously taken sick after having eaten the leaves of the Rhubarb plant cooked as greens. A late English paper also gives a case where severe sickness was incurred by eating tarts made of the swelling buds. The presence of oxalic acid, which is a strong poison, in the leaves, is said to be the cause. No part of this plant, therefore, should be used but the stems of the leaves.

REVIEWS.

THE CULTURE OF THE GRAPE: *embracing directions for the treatment of the Vine in the Northern States of America, in the open air and under glass structures, with and without artificial heat.* By J. FISK ALLEN. Boston. 8vo. pamphlet, 55 pages. Price 37½ cts.

HERE is a modest unpretending pamphlet, which we look upon as a most valuable contribution to our stock of knowledge on the subject of grape culture.

When a person writes a *pamphlet* on a subject that might have been extended to a whole volume; when he bears in mind that his subject is one of purely practical importance, and accordingly conveys his ideas in the simplest and plainest terms; when, in short, the whole performance shows that he writes solely because he feels that he has something valuable to communicate, we are inclined to look upon his pages with far more respect and attention than upon those, much more common, of the author ambitious of making a *book* at all hazards.

The culture of the grape under glass may be said to be one of the nicest points in horticultural practice. Not, indeed, that it is difficult or mysterious *when once understood.* On the contrary, there is no crop of fruit produced in America with so much certainty, so uniformly fine, as are the *tons* of delicious foreign grapes borne every year in certain well known vineries about Boston. But the phrase, "when once understood," means something in the culture of the foreign grape; for it is almost the only fruit of the temperate zone that exacts an artificial climate in the United States. Both observation and experience are demanded, to insure uniform success; and there are many cultivators just commencing in this country, who, in the absence of both, will gladly avail themselves of Mr. ALLEN's as here presented.

This gentleman's success in the production of the finest fruit is almost a proverb at Boston, where are our best growers of the grape. He has not only carefully examined the vine culture abroad, but he has experimented perhaps more extensively than any American, at his residence at Salem, Mass., with all the different modes of culture, and with a great variety of glass structures. He has collected and proved all the most celebrated kinds of foreign grapes, often, as we know, importing a rare kind from four or five different sources before getting the genuine variety. In this way, Mr. ALLEN has introduced, proved and disseminated with liberality, several valuable sorts, previously unknown in our collections, and for which pomologists owe him many thanks.

The following prefatory remarks show the aim of the essay before us:

"The attempt has been made to give plain rules, which may be easily understood, and the practical operation of which can be carried out with as little labor as the cultivation of the grape, under glass, will permit.

"The following directions are intended for those who may desire to cultivate this fruit for their own pleasure or convenience, who do not wish to incur the expense of a regularly educated gardener, and who have felt the want of a concise and simple explanation of the process, and the rules by which these operations of forcing and growing grapes, under glass structures, can be carried out.

"The treatment recommended is such as has been found to be the best, after many

years' experience in its cultivation; during which time, the different systems of pruning have all been tried, and many of the vineyards in France and on the Rhine, in Italy and other countries, have been visited, and and the manner of pruning, the varieties of soil, and the amount of fruit which a vine is permitted to ripen, have been examined and ascertained.

"The disadvantages we labor under in this country, in forcing fruit, from the extreme coldnesss of the weather in winter, are counterbalanced, in some degree, by the superior brilliancy of the sun, and consequent dryness of the atmosphere at the time of ripening, which give a flavor to the fruit such as it can rarely be made to attain in the moist, dull and cloudy weather of England."

Mr. ALLEN's pamphlet, it will be remembered, is intended chiefly for the use of those having *vineries*. His directions for for the culture of grapes out of doors are very brief, and of comparatively little moment. But he treats of the culture of grapes under glass systematically, and though with brevity and conciseness throughout, yet in a way best calculated to instruct the novice in vine culture. The construction of the grapery, the preparation of the border, and planting the vines, are first explained; then the routine of pruning and management in the *cold-house*, (or vinery without fire-heats,) is considered; this is followed by the details of a forcing vinery, then that of a *retarding house*, and the work closes with an explanation, with cuts, of different modes of pruning and training the vine.

"For a cold house," Mr. ALLEN recommends the following selection of varieties:

Black Hamburgh,
Rose, or Red Chasselas,
Chasselas de Bar sur Aube,
White Frontignan,
Grizzly Frontignan,
Pitmaston White Cluster,
Golden Chasselas,
White Gascoigne,
Royal Muscatine,
Wilmot's New Black Hamburgh.

"For a forcing house:"

Black Hamburgh,
Rose, or Red Chasselas,
Chasselas de Bar sur Aube,
White Frontignan,
Grizzly Frontignan,
Black Frontignan,
Pitmaston White Cluster,
Golden Chasselas,
White Gascoigne,
Royal Muscadine,
Wilmot's New Black Hamburgh,
Muscat of Alexandria,
Zinfindal.

Brief descriptions are given of forty or fifty other varieties cultivated by Mr. ALLEN.

The author's mode of preventing mildew is to strew sulphur early in July, over the floor of the house, at the rate of one pound to every twenty square feet. This may be repeated twice every summer. The sulphur is by no means allowed to touch the fruit, but if necessary the vines are syringed at evening, and the *foliage* dusted with it.

As we predict that this timely little treatise on the grape will speedily be in the hands of every cultivator of the foreign vine in the country, we will not do more at present than cordially recommend it as well worthy their attention.

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AGRICULTURAL BOTANY: *An enumeration and description of useful plants and weeds, which merit the notice, or require the attention of American Agriculturists.* By WILLIAM DARLINGTON, M. D. Philadelphia, J. W. Moore; New-York, Newman & Co. 12mo. 270 pp.

DR. DARLINGTON, already well known as a botanist, has, in this compact little volume, endeavored to widen the interest, and give a higher meaning to the life of the farmer, by adding to his knowledge of that portion of the vegetable kingdom which comes under his observation every day of his life. It should, to a reflecting mind, appear singular that most farmers pass their whole lives in comparative ignorance of the names and properties of half the trees and plants that surround them; yet we fear, such would prove to be the lamentable fact to a curious investigator.

Dr. DARLINGTON considers some rational knowledge of the vast and multiform vegetable creation around indispensable to a rightly instructed people. He has, therefore, dedicated this volume to the young

farmers of the United States. "I address myself," he observes, to the youthful and aspiring agriculturists of the country, who seek to elevate their noble profession to its first rank among human pursuits; and who feel that the exercise of *intellect*, as well as of muscle, is indispensable to the accomplishment of their purpose."

This volume of Agricultural Botany may be considered a pocket manual for the farmer, who desires to make himself acquainted with all the principal trees, shrubs, cultivated plants, wild plants and weeds, within his usual range. The author declares it as his intention, in this work, not to describe all the plants that an accomplished agriculturist would wish to know, but to "include those only of which no intelligent farmer would willingly be ignorant."

The arrangement of the work is according to the natural system. It differs mainly from other botanical manuals, in having, besides the scientific description of each plant, some remarks of a popular character relating to its habits, mode of culture, its introduction if naturalized, or perhaps the means of subduing it if a troublesome weed, all of which is written with the sagacity, spirit and observation, which we should have expected from the author.

.. ...

CHEMISTRY *in its applications to Agriculture and Physiology*, by JUSTUS LIEBIG, M. D., F. R. S., *Edited by* LYON PLAYFAIR, Ph. D., and Dr WM. GREGORY. *From the fourth London edition, revised and enlarged.* New-York. Wiley and Putnam. 12mo. 401 pp. 75 cts., or bound in muslin $1.

IT is quite unnecessary that we should enter into any laudatory criticism of this remarkable work, which has made for its learned and scientific author so wide a reputation. It is sufficient to say that its publication commenced a new era in scientific agriculture, begot a whole series of volumes on rural chemistry, which are, for the most part, indifferent imitations, and is at the present moment the text book of almost every zealous experimenter in the culture of the soil. Success so great, in any walk, always excites open opposition, and not unfrequently violent detraction from those of the old rank and file, who find themselves eclipsed by the glories of the new leader. LIEBIG and his views have accordingly been assailed, both in Germany and England, with no little severity. While these attacks have not in the least weakened the author or his works in popular favor, they have, very properly had an influence upon some points of doctrine originally advanced by the distinguished Professor at Giessen. The following remarks, from the preface of the present volume, will therefore be read with interest:

"Many views and principles which I had endeavored to develop in reference to nutrition, and especially to the cultivation of vegetables, were strongly opposed, immediately on the first appearance of this work. I could not, however, resolve to make any material change in the immediately succeeding edition, because I did not consider the scientific investigation of the important questions at issue as completed, and because I thought that I ought to trust the decision of them to experience alone.

"Many of the objections were founded on a want of mutual understanding; others related to positions and assertions having no connexion with the peculiar objects of the book. I have set these aside by the omission of all passages thus called in question.

"In the three years which have elapsed between this edition and the first, I have not neglected any opportunity of subjecting to a rigorous and careful examination the principles which I had developed of the

nutritive properties of plants, and their application to agriculture. I have endeavored to make myself acquainted with the condition of practical farming, and with what it requires, by a journey through the agricultural districts of England and Scotland; and during this interval a long series of experiments were carried on in the laboratory of this place, with the sole object of giving a firmer basis to my exposition of the causes of the advantageous results attending the practice of rotation of crops, and also of effectually banishing all doubts concerning their accuracy.

"In my 'Chemistry in its application to Physiology and Pathology,' I have subjected the process of nutrition of the animal organism to a stricter investigation; and I am now, for the first time since the completion of these labors, in a situation to give a simple and determinate expression to my view of the origin of animal excrements, and of the cause of their beneficial effects on the growth of all vegetables.

"Now that the conditions which render the soil productive and capable of affording support to plants, are ascertained, it cannot well be denied, that from chemistry alone further progress in agriculture is to be expected."

The present volume is not only considerably revised and amended, so as to bring it down to the latest period of chemical progress, but it contains also an appendix exhibiting the analysis of a large number of different plants and soils, adding very materially to its value.

Messrs. WILEY and PUTNAM have published the work in so convenient, excellent and cheap a form, that no intelligent landholder in the country, who desires to know something of the mysteries of growth, nutrition and decay of the vegetable kingdom, has the least apology for not possessing it.

FOREIGN NOTICES.

ITALIAN HORTICULTURE.—*Palermo, April* 8.—After the many evidences of carelessness, neglect, and idleness, which the gardens, as well as many of the cultivated grounds, about Naples, afforded, it was a great relief to come here, where if full advantage is not taken of the facilities afforded by the climate, some gardens at least show taste, care, and industry; and the richly cultivated vale of Palermo, as well as the five basins round the bay of Castellammare, would give a most favorable idea of the state of agriculture in Sicily to the stranger who saw nothing but this neighborhood. The climate is particularly favorable; the thermometer never descends quite to the freezing point; the great heats of summer are somewhat modified by the northern exposure, the sea-breezes, and the high hills which close the vale to the south. Drought is what they suffer most from, but there are many springs and small streams in the hills, and they have inherited from the Moors not only the art of irrigation, but also several important aqueducts and water channels, constructed for the purpose by that industrious race. The soil is of itself not rich, and often of very little depth. The rock is all calcareous, but the earth generally very stiff, and, with the hot sun, bakes almost like brick. However, where there is water, vegetation is most luxuriant, and the Orange especially thrives in such situations, whilst the drier parts are equally well suited to the growth of the Olive, the Sumach, and the Indian Fig; the latter shrub, if so one may call the singularly shaped masses formed by the Opuntia, is one of the most productive crops of the country, and often covers the lower parts of the warmer declivities of the hills, or intersects the hot flats at their foot, with a network of thick rows, giving, with the Agaves in the hedges, a singular character to the views. The plants vary from two or three to eight or ten feet high, or seldom more. There are two varieties almost equally common, the one covered with prickles, the other generally, but not always, almost entirely without; they do not appear to differ in any other respect; there are also varieties in the color of the fruit. The buds are in some places now beginning to appear, thickly studding the extreme articulation of the plant, and when the fruit is fully formed, it is said to be so abundant as completely to conceal the articulation on which it grows. It is always eaten raw; tastes a good deal like the common Fig, but with less flavor; it is, however, more nutritious, and forms, indeed, in many parts of Sicily, for two or three months, the sole food of the lower orders. It is not exported excepting to Naples.

The Sumach (*Rhus coriaria,*) is another very

productive article, and cultivated to a great extent. It has the advantage of thriving in the most arid, burnt up situations, cannot bear wet, and requires little labor beyond the digging the ground once or twice in the year to keep it from being choked by weeds. It is now beginning to shoot, having been pruned down to six inches or a foot from the ground. It grows up every year to the height of three or four feet, and when in full foliage, the leaves and young shoots are gathered and dried for use. The produce is partly consumed in the local tanneries, partly exported. The Olive trees form an important feature in the landscape, and at once indicate the extent of the dry parts of the valleys. But individually they are not fine, apparently from bad pruning and want of care. The Oranges and Lemons, on the contrary, in all parts of the vale where there is irrigation, are very luxuriant; and looking down from the heights of Monreale, for instance, nothing can exceed the rich look of the Orange grounds, forming a deep green mass, sometimes of miles in extent, here and there tinged with gold where the fruit is still on the trees, and the effect of the whole is improved by the Walnut trees, (as yet leafless.) projecting here and there far above the general level.

The great exportation of the fruit is for North America, from whence there are often eighteen or twenty vessels at once loading with them in the harbor. The Palermetan Oranges in general are good, much better than the Neapolitan, but often inferior to the Maltese and Balearic ones. I have here for the first time eaten good mandarines, about the size of a fine common Orange, but having a considerable vacuity between the rind and the endocarp. They are very sweet and good flavored, and the cells separate so easily that they are very agreeable to eat, but will not bear exportation. The Vines here are cultivated more in the French than in the Italian manner—pruned short and tied to stakes, and a good deal of care is taken in the working the ground. The result is, the common wines are fit for drinking, which they scarcely ever are in Italy. The Caroub (*Ceratonia siliqua*) is not much planted in this neighborhood, though it thrives well and produces abundantly; but in some places on the south coast, there are villages which make it almost their sole revenue, and export it in great quantities. Mulberries for silk are scarce and much neglected, though the situation appears well suited to them, and I am told, that endeavors are now making to extend and improve their cultivation, and the rearing of the silkworm. There are a good many fruit trees, chiefly Figs, Walnuts, Almonds, and Peaches, and a very few Pistachio nuts. I have not observed the Jujube; the Date trees are very few, and can only be planted for ornament, for although it flowers freely, and never freezes, yet the fruit does not come to perfection. Forest trees are only to be met with in ornamental plantations, for the hills around the vale have long been deprived of their primitive woods, and it is with great difficulty that an evergreen Oak or a Quercus pubescens may here and there be found as a shrub among the rocks. The flowering Ash (*Fraxinus ornus*) which is indigenous, may sometimes be seen, and is here and there cultivated for manna, but not much in this immediate neighborhood, though in other parts of the island it is said to be sometimes an article of importance. With all this arboreous and frutescent cultivation, and the numerous kitchen gardens in the vicinity of the town, little room is left in the vale of Palermo (containing certainly above fifty square miles) for meadows or for grain; indeed, what are called meadows are scarcely entitled to the name. They are usually a weedy looking mass, chiefly Lotus ornithopodioides, edulis and biflorus, a few Medicagos, Vetches, and other Leguminosæ, intermixed with a very few Gramineæ, and a number of miscellaneous plants, very beautiful to the eye now that their herbage is green, when not completely hid by the mass of bright-colored flowers, but which a day or two's sirocco is enough to wither up, and are at the best but of small produce. The best pastures where horses and cattle are reared are in the interior, and towards the south of the island. The grain of the vale of Palermo is chiefly in small patches, scattered over the lower parts, and extending up the sides of the hills up to the very tops, either on the northern sides or where the soil lies deep, in many places in acclivities so steep that they must be entirely cultivated by hand, and where the soil would never remain without terracing, were this part of island exposed to the torrents of rain which deluge the eastern portion in the season of storms. There are, however, some broad valleys in this part of Sicily entirely occupied by arable land; we crossed one between Alcamo and Segestha, where the crops looked clean and healthy; the chief kinds cultivated are Wheat and Barley, with a little Rye and Oats, Beans in great quantities, a few Peas and Lentils, large fields of Lupins, but they are chiefly as in Catalonia, sown on the fallows to be ploughed in. They grow to the height of three or four feet, but are very little used as fodder (for which they are chiefly cultivated at Naples.) They, as well as the Peas and Beans, are frequently infested by the Orobanche pruinosa, called by the Sicilians Lupa, a very handsome sweet-scented species, growing as tall as the Lupin, which it generally kills. It is precisely the same as in Catalonia and Roussillon, where Lapeyrouse first described it. Flax is grown to a great extent in all the valleys, and there are more green crops raised for forage than in those parts of Italy I have seen, especially the Hedysarum coronarium now coming into flower, giving to the sides of some hills a beautiful crimson hue, whilst others are tinged with the rich orange of the Lotus biflorus. Kitchen garden culture in the vale of Palermo is very good, and the mode of irrigation is the same as in Roussillon and Catalonia, probably in both countries handed down from the Moors. The vegetables now selling are chiefly artichokes in immense quantities, which the lower orders buy ready boiled in the streets, Endive and Cos Lettuce, Cabbages, chiefly a kind of Turnip-rooted, not exactly the Kohl-rabi, but one with the lower part of the petioles and stalk thickened like Celery or Finocchio; this Cabbage, as well as Lettuces, is much eaten by the people in the streets raw; Finocchio is also still plentiful; and Beans and Peas are already abundant; what we have eaten of the two latter have been generally fine and good; the low-

er orders usually eat them ripe and roasted, and of course those now selling are last year's. The Broad Beans selling ready roasted in the streets are as large as our finest Windsor Beans. French Beans are much grown, but are still very young; Potatoes have also, within the last few years, been much cultivated, and eaten by the peasantry. From all I can hear, the disease, which has spread more or less over the greater part of Italy, has not reached Sicily, at least not to sufficient extent to attract notice, but the Potatoes we have eaten have not been good. *Gardener's Chron.*

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Giant Sea-weed.—"There is one marine production, which from its importance is worthy of a particular history. It is the kelp or *Fucus giganteus* of Solander. This plant grows on every rock from low-water mark to a great depth, both on the outer coast and within the channels. I believe, during the voyage of the Adventure and the Beagle, not one rock near the surface was discovered, which was not buoyed by this floating weed. The good service it thus affords to vessels navigating near the stormy land is evident, and it certainly has saved many a one from being wrecked. I know few things more surprising than to see this plant growing and flourishing amidst those great breakers of the Western Ocean, which no mass of rock, let it be ever so hard, can long resist. The stem is round, slimy and smooth, and seldom has a diameter of so much as an inch. A few taken together, are sufficiently strong to support the weight of the large loose stones to which, in the inland cannels, they grow attached; and some of these stones are so heavy, that, when drawn to the surface, they can scarcely be lifted into a boat by one person.

"Captain Cook, in his second voyage, says, that at Kerguelen Land, 'some of this weed is of a most enormous length, though the stem is not much thicker than a man's thumb. I have mentioned, that upon some of the shoals on which it grows, we did not strike ground with a line of twenty-four fathoms. The depth of water, therefore, must have been greater. And as this weed does not grow in a perpendicular direction, but makes a very acute angle with the bottom, and much of it afterwards spreads many fathoms on the surface of the sea, I am well warranted to say that some of it grows to the length of sixty fathoms and upwards.' Certainly, at the Falkland Islands, and about Terra del Fuego, extensive beds frequently spring up from ten and fifteen fathom water. I do not suppose the stem of any other plant attains so great a length as 360 feet, as stated by Captain Cook. The geographical range is very considerable; it is found from the extreme southern islets near Cape Horn, as far north, on the eastern coast (according to information given me by Mr. Stokes) as lat. 43°—and on the western it was tolerably abundant, but far from luxuriant, at Chiloe, in lat. 42°. It may possibly extend a little further northward, but is soon succeeded by different species. We thus have a range of 15° in latitude; and as Cook, who must have been well acquainted with the species, found it at Kerguelen Land, no less than 140° in longitude.

"The number of living creatures, of all orders, whose existence intimately depends on that of kelp, is wonderful. A great volume might be written, describing the inhabitants of one of these beds of sea-weeds. Almost every leaf, excepting those that float on the surface, is so thickly incrusted with corallines as to be of a white color. We find exquisitely delicate structures, some inhabited by simple hydro-like polypi, others by more organized kinds, and beautiful compound Ascidæ. On the flat surfaces of the leaves, various patelliform shells, Trochi, uncovered molluscs, and some bivalves are attached. Innumerable crustacea frequent every part of the plant. On shaking the great entangled roots, a pile of small fish, shells, cuttle-fish, crabs of all orders, sea-eggs, star-fish, beautiful Holothuriæ (some taking the external form of the nudibranch molluscs,) Planariæ, and crawling nereidous animals, of a multitude of forms, all fall out together.

"I can only compare these great aquatic forests of the southern atmosphere with the terrestrial ones in the intertropical regions. Yet, if the latter should be destroyed in any country, I do not believe nearly so many species of animals would perish, as, under similar circumstances, would happen with the kelp. Amidst the leaves of this plant, numerous species of fish live, which nowhere else would find food or shelter; with their destruction, the many cormorants, divers, and other fishing birds, the otters, seals, and porpoises, would soon perish also; and lastly the Fuegian savage, the miserable lord of this miserable land, would redouble his cannibal feast, decrease in numbers, and perhaps cease to exist."—*Darwin's Journal of the Voyage of the Beagle.*

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Great Mexican Cacti.—There are three specimens of *Cereus senilis*, from Real de Morte, in the Royal gardens at Kew, near London, which measure 12 feet, 16 feet, and 18¼ feet in height. Since small plants of this species are known to be from twenty to twenty-five years old, and since the growth of these plants in Mexico is exceedingly slow, there is good reason for believing that these monster specimens are some hundreds (perhaps a thousand) years old.

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The Flower show at Cambridge.—The late London papers are full of the ceremonies of the visit of the Queen to Cambridge, and the installation of Prince Albert as Chancellor of the University. Among other entertainments on the occasion, was a brilliant horticultural exhibition in the grounds of one of the colleges, the following brief notice of which we copy from the *Illustrated London News.*

"The flower show, in the beautiful grounds of Downing College, was a delightful relief to the indoor ceremonies.

About nine spacious tents were erected in different parts of the grounds, within which the flowers and plants were arranged; military bands played for the entertainment of the company; seats were placed beneath the trees for those who were disposed to seek temporary repose or shelter from the rays of the sun; and many who could not obtain seats, stretched themselves on the grass, forming, as they were seen from various points, Watteau-

like groups. A portion of the grounds, extending from the lodge shrubbery to the Royal tent, had been railed off for the exclusive accommodation of her Majesty and suite. The rest of the grounds were at the disposal of the visitors. Five thousand tickets had been distributed. The whole were eagerly bought up, and vast numbers were disappointed. The spacious and picturesque enclosure, resembling the grounds of a baronial mansion, was crowded throughout the *fete*. Her Majesty and the Prince was received at the lodge by the Master of Downing, and entered the grounds by the southern facade. The Queen and the Prince then proceeded to the royal tent, which was most georgeously decorated with gold and crimson. After partaking of some refreshment, the royal visitors, attended by Mr. Ashton, secretary to the Horticultural Society, visited each tent, in which flowers were displayed. The pressure was, at this time, very great; the Duke of Wellington got into the middle of the crowd before he was recognized, and was much inconvenienced. After remaining in the grounds about three quarters of an hour, and accepting a beautiful buoquet from Mrs. Ashton, her Majesty, Prince Albert. and the whole of their suite, withdrew into the house of the Master of Downing College, when the Queen was pleased to express her gratification at what she had seen. The royal party then left for the Fitz-William Museum, and afterwards attended the banquet, at half past six o'clock, at the great hall in Trinity College."

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Enormous Pear.—M. Calle, of Brionne, has drawn our attention to a print of the *Belle Angevine* Pear, a variety,* the extraordinary size of which has already attracted the attention of horticulturists. M. Calle has produced on one of his trees a specimen which, in its dimensions, fully equal any of those we have heretofore cited. This fruit weighed 2 lbs. 15 oz. avordupois; and measures more than 13 inches in circumference by nearly 8 inches in height.—*Revue Horticole.*

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Malaga Raisin Vineyards.—At day-break this morning, a gentleman, who n Mr. Kirkpatrick requested to show me his vineyard, and explain the process of preserving grapes, waited upon me, and we set out immediately. Our road lay along the shore to the eastward, the vineyard of Don Salvador Solier lying in that direction, at the distance of about 14 miles. In the immediate vicinity of Malaga, the country is extremely rugged, but every patch where it was possible to thrust in a plant was under cultivation. The rocks consisted of rugged masses of limestone, alternating with the same kind of slaty schist I had previously observed on the road from Antequera. For the first two leagues, there were few vineyards, chiefly owing to the ruggedness of the country, which would not admit of cultivation. Beyond that distance almost every hill was covered with vines, the produce of which is all converted into raisins. The grapes are all of the large white Muscatel—the Muscatel Gordo of Roxas Clemente. This grape, my companion informed me, does not succeed in the interior, and, therefore, all the Muscatel raisins are made within two leagues of the coast. The Lexia raisins, which are used for puddings, &c., are made in the interior. We arrived at the country house of Don Salvador at nine o'clock, and, after a substantial breakfast, sallied out to examine the vines. Six or seven workmen were employed in preparing the ground for planting, within a short distance of the house They did not trench the wnole of the ground, but dug out square holes, about two feet in diameter and not more than 20 inches in depth. The distance of the centres of these holes from each other is seven feet, and this is the distance at which the vines on the hills round Malaga seem invariably to be planted. The vineyard I was examining, as well as all those in its vicinity, consisted of a series of steep hills. The soil everywhere was a decomposed slate, mixed with abundance of gravel of the same substance. On the higher part of the ground, this soil appeared rather hard and required great labor to break it up, but once broken up it is loose forever; so much so that it slides away from under the feet even where there is only a slight slope. There is no difference made in the distance at which the vines are planted, between the hills and the valleys; although in many places on the former, the shoots scarcely extend more than 10 or 12 inches, while in the valleys they extend to the length of as many feet. They never, under any circumstances, manure these vineyards; they say it would give more wood but would not add to the quantity of the fruit. The branches are pruned closer to the stock than those of any vines I ever saw; nothing but the half-formed buds, at the junction of the old and new wood, being left to produce the wood of the succeeding year. I could not find an instance where the spur had been left long enough to include the first full-formed bud, which is generally from half an inch to an inch from the junction. The number of shoots seemed almost unlimited; I counted from ten to twenty-two; there was scarcely any vine had fewer than 10, and they generally had from 12 to 15. The stock was close to the ground, and not the slighest effort made to raise the shoots, or support them from the ground. Almost every bunch would, therefore, lie on the ground; and were the soil of a less gravelly description, the greater part would, without doubt, be lost. After the pruning they dig over the ground and lay bare the stock, in order to scrape off the barbe, or small thread-like roots which are near the surface. As scarcely any grass or herb vegetates among these vines, and the soil is always sufficiently loose, it is evident that they require little digging or cleaning. We went out to visit a peasant, a neighbor of Don Salvador's. He said four or five very fine vines might yield raisins enough to fill a box which contains an arroba of 25 lbs.; but throughout the country it would require, on an average, nine or ten. The grapes lose about two-thirds of their weight in drying; this would, therefore, give a produce of 7 or 8 lbs. of grapes to each vine—a calculation which I should think must include a much greater proportion of stinted vines than of luxuriant ones; for the majority of those in Don Salvador's vineyard would, I have no doubt, yield double that quantity. Including, however, those vines which are visible at the tops even of the highest hills, the

* Fit for cooking only.—Ed. Hort.

calculation is likely enough to be correct. The grapes, when dried, are worth double what they would yield made into wine, unless spoiled by the rain.

They usually commence gathering the grapes about the middle of August, choosing only such bunches as are ripe. They return after a week or two to make another selection, and so on for a third and fourth time. A place is always reserved in the vineyard, free from plants, on which to spread the grapes when gathered; and they choose a spot where the soil is of the darkest color, in order to its keeping the full force of the sun's rays during the day, and retaining the heat during the night. The bunches are spread out separately on the ground, and never allowed to press upon each other: according to Don Salvador, they are only once turned over. At the end of 15 days they are, in general, sufficiently dry. This season was more unfortunate for the early commencement of the rains, than any season for many years, and the crop was remarkably fine. It is Don Salvador's intention in future years, to have wooden toldos, or awnings, prepared to shelter the grapes, while drying, against the rains, and also to cover them during the night. He says that the drying of the grapes is so much retarded by their being exposed to the dews during the night, that when he has the means of covering them at night, he expects they will be dried in half the time usual at present. Before the bunches are spread out, the small grapes are picked out, as well as any which may happen to be injured; the small grapes are dried separately. I saw a heap of them in Don Salvador's house, which had the appearance of very large currants. When the grapes are turned, any spoiled ones are, or ought to be picked out; they have no particular rule for judging when they are sufficiently dry — it is learnt by experience. When they happen to get rain while drying, the stalks become black or rusty looking, instead of being of a bright light brown. According to Don Salvador, the district which produces the Muscatel grape extends only two leagues farther east; that is, not more than three leagues in all, along the coast, and two leagues inwards. He says the value of the land planted with it is about 3,000 rials, or 150 Spanish dollars per fanega.—*Busby's Vineyards of France and Spain.*

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Italian Flowers.—I have been taking a series of beautiful rides in the *Campagna*. I wish very much to preserve, if possible, some record of the various features of that vast, wonderful plain,—but words multiplied to weariness can hardly express one tithe of the loveliness and sublimity that the eye sweeps over in a minute on that enchanted ground; and first, we come upon some point of it where it spreads out before us a wide, flat expanse, hazy and unbroken as a summer sea, over whose level surface whole companies of larks trill, and twitter, and twinkle, with a perfect chorus of jubilant song, of which our lonely field singer gives not the faintest conception. It is very curious, by-the-by, the fuller life to which all things seem ripened by this southern climate. Not only do the larks appear in perfect cohorts over these sunny plains, and sing with a loud clearness, unequalled, certainly by our solitary bird; but the same sort of difference manifests itself in *flowers* common to both countries. The daisies here have a wide awake determined air, which would made Burns' address to them absolutely ironical; their buds are of the deepest crimson, their flowers are of the most unhesitating white, with little stiff-necked stalks, and faces all turned up to the sky with a degree of self-possession quite astonishing in a mere daisy. The China roses have all a much deeper color, and stronger perfume than with us. I saw one to-day; a bird sitting under some fresh taper polished green leaves, beneath which a single ray of the sun darted upon a passionate-colored crimsoned flower, that sat beneath its canopy, in an atmosphere of living light, and glowed in a sunshine all to itself, like a jewel; I never saw such a magical effect of color in my life. Then too, the violets here could never, even by the most courteous device of poetry, have been celebrated for their modesty; from fresh vigorous tufts of veined leaves they shoot long slender stalks, with deep colored red-purple blossoms, in absolute sheaves — not low down — not nestling in the shade — not shrinking into moss and retirement; but looking, as every thing here seems to do, towards the sun, and opening their sweet bosoms to the warm air, that at noon in our little terrace garden was full of their perfume.—*Mrs. Butler's Year of Consolation.*

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A Peruvian Paradise.—The favorite residence of the Incas was at Yucay, about four leagues distance from the capital. In this delicious valley, locked up within the friendly arms of the Sierra, which sheltered it from the rude breezes of the east, and refreshed by gushing fountains and streams of running water, they built the most beautiful of their palaces. Here, when wearied with the dust and toil of the city, they loved to retreat and solace themselves with the society of their favorite concubines — wandering amidst groves and airy gardens that shed around their soft intoxicating odors, and lulled the senses to voluptuous repose. Here, too, they loved to indulge in the luxury of their baths, replenished by streams of crystal water which were conducted through subterraneous silver channels into basins of gold. The spacious gardens were stocked with numerous varieties of plants and flowers, that grew without effort in this temperate region of the tropics; while parterres of more extraordinary kind were planted by their side, glowing with the various forms of vegetable life skillfully imitated in gold and silver. Among them the Indian corn, the most beautiful of American grains, is particularly commemorated; and the curious workmanship is noticed, with which the golden ear was half disclosed amidst the broad leaves of silver, and the light tassel of the same material that floated gracefully from its top. If this dazzling picture staggers the faith of the reader, he may reflect that the Peruvian mountains teemed with gold; that the natives understood the art of working the mines to a considerable extent; that none of the ore, as we shall see hereafter, was converted into coin; and that the whole of it passed into the hands of the sovereign for his own exclusive benefit, whether for purposes of utility or ornament. Certain it is that no fact is better attested by the conquerors themselves, who had ample means of information and no

motive for misstatement. The Italian poets, in their gorgeous pictures of the gardens of Alcina and Morgana, came nearer to the truth than they imagined.—*Prescott's Hist. of the Conquest of Peru.*

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The Tea-Plant in India.—We learn from the Calcutta Gazette, that the efforts of Dr. W. Jameson, superintendent of the botanic gardens in the northwest provinces of India, to introduce and extend the cultivation of the tea-plant have been highly successful. The tea brokers in England have, moreover, pronounced the Indian tea equal to China tea of a superior class, possessing the flavor of the orange-pekoe, but more than its usual strength, and in other respects resembling that imported under the name of ning-yong. The tea tree in Kemaoon is not only identical with the China plant, and as capable of being made into as fine a description of tea, but the climate and soil in Kemaoon are as suited to the favorable growth of the shrub as the finest of the Chinese localities; and, moreover, the tea is as highly prized in the districts in which it has been raised as it is in England. One hundred and seventy-three seers of it were recently sold at Almorah, and produced from four to five rupees the seer, a price equal to the best foreign tea sold in Calcutta. According to the calculation of Dr. Jameson, the price for which it can be raised is so low as to afford the greatest encouragement for the application of capital: he estimates that if cultivated on a sufficiently large scale, the prime cost in Calcutta, including every expense, would be little more than eight annas a seer, or one-eighth of the present price. Supposing the cost of cultivation to be double what is here estimated, a sufficient amount of profit would still be left. The capacity of the provinces of Kemaoon and Gurhwall for the enlarged production of the article, does not moreover appear to be limited to particular localities. According to the latest report that has been furnished, 176 acres were under cultivation, containing not fewer then 322,579 plants. The crop is thriving in different places over four degrees of latitude, and three degrees of longitude; and 100,000 acres are available in the Dhoon alone for the purposes of tea cultivation. At a maund an acre, they would yield 7,600,000 lbs., which is equal to one-sixth the entire consumption of England.—*London Hort. Mag.*

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Exposing Greenhouse Plants in Summer.—Many green-house plants, and especially the more delicate kinds, often suffer much injury from exposure to the sun's rays in summer. When so exposed without the benefit of shelter of any kind, the soil is apt to become so thoroughly dried, that it is with difficulty again wetted, and hence the scorched and stunted looking growth which may sometimes be seen on such plants in the summer season. The injury in most cases arises not from exposing the stem and branches of the plants, but from exposing the pot in which it is growing; the sun's rays acting on the sides of the pots, in conjunction with the evaporation constantly going on, soon deprives the soil of its moisture; and as all the tender roots are usually more or less in contact with the inner surface of the pot, their injury is inevitable. It is no uncommon thing to see the soil so much dried as to shrink quite away from the pot, and in this case the roots cannot avoid being more or less injured. Under such circumstances, too, the water which is supplied sinks down as fast as it is poured on, and fails, for a long time at least, to moisten the interior of the soil. Then again, the necessity for constant watering caused by this exposure, is an evident waste of time. When plants are turned outdoors (and also when kept in-doors) their roots ought to be sheltered by some means from the influences alluded to; plunging the pots in some open porous material will answer the end as well as anything; and of the substances that may be employed, moss, coal ashes, rough peat, saw-dust, or fine charcoal are among the best that can be employed. It is desirable, also, to afford the entire plants a very thin shade during the intense sun heat of summer, but the lighter the material employed the better.—*Ibid.*

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Bulbous Plants.—To check the growth of the foliage of bulbous plants is very decidedly injurious to them. After they have done flowering, it should be an object to stimulate the leaves to make strong and vigorous growth; and this should be done under the influence of strong bright light, and continued till they show symptoms of having passed their maturity; this is generally indicated by their turning yellowish, and decaying at the tips. Moisture —both at the root, and in the atmosphere — is then to be reduced gradually until they are brought to a state of rest. It is, therefore, an erroneous though a common practice to cut off the foliage of hardy bulbs as soon as their bloom is faded, or even at any subsequent period, while that foliage is in a growing state; and it is also hurtful, though sometimes necessary, to take them up and remove them to another place, unless this can be done without greatly disturbing their roots.—*Ibid.*

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Hothouse Fires.—Great waste of fuel is often the result of the ordinary mode of managing hothouse fires. Much of the smoke, for instance, which is in itself a nuisance, is also a waste, for the gases which thus pass away are capable of combustion, and thus of increasing the amount of heat which is developed. Whenever pure coals or coals blended with cinders are employed in furnaces, it will be found to be a palliative of this nuisance to push forward towards the neck of the flue the bulk of the red-hot fuel, previous to mending the fire, and to deposit the fresh fuel in front of the glowing mass. The gas, which is liberated and forms smoke, is thus made to pass directly over the hottest part of the fire, and to a great extent becomes ignited. The bulk of red-hot cinders should be considerable before the ash pit doors or dampers are resorted to, and then, particularly at "damping up" for the night, small cinders and moist ashes should alone be employed; on no account pure coals. A writer in the Pharmaceutical Times states, that a scientific chemical remedy for the smoke nuisance offers itself, by introducing a cast iron tube from a boiler, to convey a column of steam to be dispersed by a

rose nozzle over the surface of the coking coal. New combinations thus take place, which affect the entire combustion of the inflammable gases, and where it has been applied the disappearance of the column of black smoke has immediately followed its application.—*Ibid.*

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Select Plants for Bedding in Flower Gardens.—*Campanula carpatica alba.* The true white-flowered variety of this species has been until recently, a rare plant in our gardens (having been generally substituted by an indifferent pale-coloured one,) and though still comparatively rare, it will, ere long, take its place as one of the best white-flowered plants for the flower-garden, affording an excellent contrast to its original type in the blue-flowered one. It is dwarf, and compact, producing numerous white,open, bell-shaped blossoms, upwards of an inch in diameter, and blooming for a considerable period during July, August, and September. It is specially adapted for planting *en masse* in beds or parterres, and equally suitable for a heavy edging to borders or beds of evergreen shrubs. It is the most readily multiplied by division from the roots, being otherwise slow of increase by cuttings. This species, in common with many others allied, secretes a viscid milk-like fluid, from which I infer that its culture in pots or vases will require a porous material, of which loam should predominate, with one-third dry fermented manure, or dry unfermented leaf-mould, with a sixth part of pounded brick, potsherds, or similar material.

2. *Calandrinia umbellata.* One of the most brilliant little plants ever introduced, of a compact decumbent habit, with a greyish furred aspect, and in the absence of the last feature, would readily be taken for a linear-leaved species of Thrift. Though its ordinary extent of growth seldom exceeds a span, it is richly adorned with terminal clusters of violet crimson, salver-shaped blossoms, upwards of an inch in diameter; and whilst it is equal to the finest kinds of Portulaccas in beauty, it possesses beyond them a feature essential to every good plant, in being perennial in its duration. It was introduced by Messrs. Veitch of Exeter about two years ago, and though now found in all general collections, it is by no means plentiful.

Nothing can surpass its effect, *en masse*, in a small parterre, or for single effect upon rockwork, or a partially raised mound upon ordinary borders.

Wherever plants are esteemed as "Nature's jewels," this should always be found within the casket.

3. *Anagallis cærulea compacta.* This is the the most valuable blue-flowered variety, and is known in the nursery collections as A. grandiflora cærulea and A. grandiflora compacta. In growth it is nearly a counterpart of the original small narrow-leaved A. grandiflora, but in the present kind assuming a darker green aspect, more dense and compact in its habit, and much more profuse in its bloom, which is of a rich ultramarine blue. It possesses none of the excessive vigor of the stronger varieties. For bedding it is an invaluable kind, and under skilful management, by accumulating and duly restricting its growth previous to its summer bloom, would form a beautiful edging for marginal effect. It is also a very ornamental object by its diversified effect on limestone rock-work, and forms a lovely contrast for portable specimens in pots or vases, in company with the fine white variety of Lobelia erinus compacta. *Gard. Chron.*

DOMESTIC NOTICES.

The Strawberry Question.—*Mr. Editor*: The error into which I conceive you have been led, in supposing that Hovey's Seedling was originally a perfect plant, and has in a great measure become pistillate by cultivation, is easily explained. You have been cultivating the Boston Pine, another seedling of Mr. Hovey, as his old Seedling. Mr. Hovey cultivated his Seedling for sale, among other varieties, most of which were staminates, and found it a certain bearer. It was in great demand, and sent by him to all parts of the Union. Where cultivated by itself, it proved entirely barren, and complaints reached him from all quarters. Unable to account for this barrenness, he sent his Boston Pine, as the Seedling, believing it a perfect plant, in its place. He sent it to yourself, Mr. Curtis, Mr. Buist and others. Mr. Buist sold both at the same time, as the same plant, having so understood Mr. Hovey, and the Boston as the original perfect, at the highest price. The Boston Pine is not perfect, but more or less defective in pistils, and ranking as a bearer scarcely equal to the Ross Phœnix and Swainstone. Mr. Downing could be easily deceived in its bearing qualities, as he at the same time claimed for the Ross Phœnix and Swainstone the same character. It is singular, indeed, that Mr. Hovey should still claim for his Boston, that it is a large fruited, perfect plant. I discover that Mr. Prince advertises a new variety, of the same character. Mr. Prince sells them at $5 per dozen, yet will not send a single plant for me to Mr. Wilder or Mr. Jackson, notwithstanding I have offered $500 for such a plant. I claim that there is no such plant; that cultivation never changes the original character of the plant. Once defective in stamens or pistils, always so. Once partially perfect only in both, always so, though more productive some seasons than others. When Professor Lindley shall have progressed so far, as to admit the existence of staminate and pistillate plants, and that the latter only are worthy of cultivation, it will be time enough to consult his articles. I claim to be strictly correct in all the principles I have advanced, notwithstanding the "numerous errors

and contradictions" discovered by Mr. Hovey in my articles. When he shall have devoted the same attention to the character of the plant for a single season, that I have every season for thirty years, he will not be twelve years in discovering that a seedling of his is wholly defective in male organs. To do this, he must, from the time vegetation starts in the spring, till the fruit season is over, be among his beds from daylight till breakfast time, and for a greater or less number of hours through the day, and not cease to visit them daily till the season is over; and do most of the planting, thinning out, and weeding himself.

As an evidence that Hovey's Seedling was originally perfect, and still partially so, Mr. Downing states that Mr. Tucker and Mr. Sargeant had beds of Hovey's Seedling perfect, that were obtained from Mr. Hovey himself. It will be found that these were the Boston Pine. The only surprise is, that a person could for one moment be in doubt, as the Boston plant bears no resemblance to Hovey's justly celebrated Seedling. As soon as English cultivators obtain a little practical knowledge, Hovey's Seedling will supersede their famous British Queen, Wilmot's Superb, Swainstone and Keene seedlings, and all these be used merely as impregnators, even by the great Professor Lindley himself. But "great bodies move slow." Principles established by Linnæus are not easily overthrown, by new doctrines learned from an ignorant marketwoman. Yours. *N. Longworth. Cincinnati, July* 8, 1847.

P. S. Mr. Hovey readily discovers my "numerous errors and contradictions," yet he was years, after his attention was drawn to the subject, discovering the defect of his Seedling in stamens. The children of my tenants, who cultivate the strawberry for sale, would, on the first view of his Seedling in blossom, at the distance of twenty feet, tell him it could bear no fruit without a husband.

Remarks. The power of a *clairvoyant* in seeing things hidden from the orbs of common mortals, is outdone by our correspondent, who puts on his spectacles of discovery, and looking from the Queen city of the West across the Alleghanies, is able to decide, past even the shadow of a doubt, the true name and character of a disputed strawberry plant in our garden on the Hudson!

What Mr. Hovey may have sent to Mr. Buist and others, as his Seedling strawberry, we know not; but of this we are certain, that our plants referred to by Mr. Longworth, are not *Boston Pines*. The latter sort we have from three sources, and received them in full bloom this season from the President of the Massachusetts Horticultural Society, and can state with the utmost certainty, that there is no resemblance whatever to the variety we have previously alluded to as perfect or staminate-blossomed Hovey's Seedling, either in their flowers or fruit. The fruit, leaf, and blossom of the Boston Pine are totally distinct from those of Hovey's Seedling, and could never be mistaken for it by any person who had seen the two sorts; while the fruit of the variety we have cultivated as a staminate Hovey's Seedling, strongly resembles that of the common pistillate Hovey in form, size and flavor.

Mr. Tucker, to whose note, p. 49, Mr. Longworth alludes, has sent us the following reply to Mr. L.'s remarks, dated Albany, July 23d:

"I observe that Mr. Longworth comes to the conclusion that the plants alluded to in my note in the Horticulturist, as received from Mr. Hovey, are, really the *Boston Pine*, and not *Hovey's Seedling*. But it so happens, that I received from Mr. Hovey at the same time, 100 Hovey's Seedling and 12 Boston Pine strawberries. Now the plants sent me are *very distinct varieties*, and I have no reason to doubt their being true to their names. Those sent as the Boston Pine are large plants—the footstalks and leaves being considerably larger than those sent as Hovey's Seedling. The fruit also was larger, and there was much less of it. Another mark of difference is, that the Pine sends out *very few* runners compared with the Seedling. Mr. Longworth's conclusion in my case, therefore, cannot be correct."

Mr. Longworth is correct in saying that Mr. Hovey has only lately arrived at any definite knowledge of the character of his own Seedling. Mr. Beecher indeed took the trouble to write a long article (which we reprinted, p. 274 of our last volume) showing that Mr. H.'s opinions on the character of the strawberry were not entitled to the least consideration, and varied every year. Thus, in 1843, in his November number, he wrote, "there is no necessity of making any distinction in regard to the sexual character of the plants when forming new beds."

In 1844, he repeated, "there is no such thing as male and female plants."

But when his new sort, the Boston Pine, came out, he suddenly changed his views, and the following are his words: "Let the causes be what they may, it is sufficient for all practical purposes to know that the most abundant crops can be produced by planting some sort abounding in *staminate* flowers, in the vicinity of those which do not possess them."

Mr. Hovey's ground now is that Hovey's Seedling is the best strawberry in the world; that it is, and always was imperfect or pistillate, and therefore requires to be fertilized by a staminate sort. In the last number of his journal, he says, advising those about making new strawberry beds, "our plan is to set ten rows of Hovey's Seedling, and then ten rows of Boston Pine: both are equally productive, and one fertilizes the other."

The advice is good, and to the good qualities of the strawberries themselves, we have continually borne testimony. But it is worthy of attention that Hovey's Seedling was quite perfect, and bore admirably; that there was *no need of any distinction in regard to the sexual character*, until just at the moment when the new seedling, the Boston Pine, was ready for dissemination!

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Treatment of Trees carried to cold Latitudes.—As a preference is given to the transmission of trees from the Atlantic nurseries to the remote Western States during the autumn, and as it often happens that they arrive at their destination after the ground has become frozen, a few simple suggestions may be deemed appropriate.

On the arrival of trees after the ground is frozen,

the best course is to bury them horizontally in a dry cellar, by making a hole two to three feet deep, and placing the trees therein with layers of sandy loam or other light soil between each layer of trees. The earth should be made fine so as to fill in compactly. They may thus be well preserved till spring, and if the frost has affected the trees in any way, it will be abstracted. Another course is to dig a trench in the cellar sufficiently large to contain the roots, and to heel the trees therein (as it is termed,) covering the roots well with fine earth, so that it may penetrate among the fibres, and leave no vacant spaces. Positive attention must be paid to the point that the cellar be a perfectly dry one, for if the earth becomes sodden during the winter, it will greatly injure, if not kill the roots. When trees are received before the ground is frozen, but which are designed for spring planting, or are intended for spring sale, the following course will be found every way appropriate: Select a spot of ground that is perfectly dry, that is, one whose texture admits of a free filtration, and dig a space sufficiently large to the depth of four feet; place the trees therein horizontally, with layers of the same light mould or sand between them, filling in all compactly until within two feet of the surface, then fill up the balance entirely with earth. There will then be two feet of soil through which the frost will have to penetrate before it can reach the trees, which will be a sufficient protection in almost any case. In very severe latitudes, however, like Vermont, Maine, New-Hampshire, and the British Provinces, the depth may be increased another foot, but should a partial degree of frost reach the trees, it would not materially affect them. The trees thus secured will, when taken out in the spring, possess all the freshness of newly transplanted ones, and being on the spot at the very opening of spring, can be placed in their respective positions at the very earliest period of removal with every prospect of success. *William R. Prince. Linnæan Nurseries, Flushing, L. I., Aug.* 6, 1847.

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Power's Large Crab.—Some years since, while visiting a few of the many choice fruit-gardens between New-York and Albany, we met with a new Siberian Crab, raised by a fruit cultivator at Hudson, Mr. Power, which, from its size and beauty, we considered quite a desirable acquisition to this class of apples.

The tree resembles the large red Siberian Crab, and is an abundant bearer. The fruit is produced in clusters, presenting when ripe a most attractive appearance, and is about six inches in circumference, somewhat flattened and regularly formed. Skin greenish yellow, with a beautifully colored cheek, and its whole surface highly polished. Stalk short, basin slightly depressed, calyx closed. It will be fit for preserving, etc., in the course of next month.

Regarding it as worthy of cultivation, we have, under the name of *Power's Large Siberian Crab*, disseminated it to some considerable extent. *R. B. Parsons. Flushing, L. I., 8th mo.*, 1847.

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Raul's Genneting Apple.—This is the apple I ent you last fall under the appellation of the *Rockremain* or *Neverfail*, which you said was "unknown to you." It is extensively cultivated in Ohio, and was introduced into this State by the late Governor Worthington. When a member of Congress, he frequently bought the apple of a Quaker who attended the market, and taking a liking to it, he procured of the Friend a few scions, which he sent in a letter to Mr. Haynes, a nurseryman near Chilicothe. From this source it has extended. We have seen it growing, in various directions, from the Ohio river near Wheeling, to the neighborhood of Cincinnati.

That the Rockremain of Ohio, is identical with Raul's Genneting of Kentucky, as described by our friend Byram, in your number of this month, I will vouch. Several Kentucky gentlemen, who have visited my house at different times, and ate of my Rockremain fruit, have, without hesitancy, pronounced it the Genneting of their State, and so described the habits of the tree that there can be no mistake in the matter.

The tree with me is but a moderate grower, but a profuse bearer. When full, the apples hang in clusters like grapes. They were loaded down last year, and have a tolerable crop this year. Putting out buds and blossoms in the spring, some two weeks later than other trees, enables them at intervals of some ten or twenty years to make a splendid hit at bearing, though most seasons the frost serves them as it does the balance of the orchard.

The apple is juicy, tender, delicate, and although good for cooking and tolerable for eating, through the winter, is not in its perfection until March and April. And then it is hard to beat. We gave both the green Newtown Pippin and the Rockremain, last spring, to some fifty persons, and requested them to say which they preferred. Three out of four gave the decided preference to the latter. It is a much better keeper that the Pippin, though it is not so large, nor does it retain its flavor, in perfection, so long. The Pippin is much more acid. The fruit, with us, is not so much elongated, on one side, as the cut in your July number, but there is not more difference in the cut and our fruit, than there is in the shape of apples on different trees of of the Newtown Pippin in our orchard.

We have thought, for some time, the celebrity this apple has, with many people, entitles it to a place in your valuable book of "Fruits," and with this view we forwarded you a specimen last fall. Whether the Worthington name, or the Kentucky name, should be the standard, your judgment will enable you to determine. We will make this suggestion, however, that Genneting is a name common to a number of apples, while Rockremain (suggested probably by the durable quality of the fruit,) is not known in the list of apples. The term "Neverfail," has been added from its bearing qualities. Yours, &c. *C. Springer. Meadow Farm, O.*

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Forced Grapes.—We have had for sale here, at the confectioner's for three weeks past, very fine Black Hamburgh grapes, raised under grass and slightly forced, which at first sold for one dollar the pound, but have fallen within two days to seventy-five cents. A good crop from Andalusia, (the seat of the late Mr. Biddle,) is understood to be nearly

ready for the market, some of which will no doubt be sent to New-York, and several amateurs have good prospects; a few of these will no doubt sell their surplus, so that a small supply will this year be found among us at about fifty cents the pound, and the supply will continue probably all September, with Chasselas, Sweet water, Muscat of Alexandria, and a few others.

It is an interesting question to be solved by the information obtained from as many quarters as possible, and to be obtained from some of your correspondents, at what price this delicious fruit would be profitable to cultivate under glass. It would be desirable to know this, both for forced fruit and that which had merely the protection of glass. All our cities have yet to be supplied, and it will probably turn out that with care and economy, and with a goor understanding of the whole routine of culture, it may prove on a large scale a capital business. Let all who can give results, by weighing all they pick from their glass houses, inform the editor of the quantity they produce and the cost, recollecting that a grapery does not afford constant occupation to a gardener, but that a man hired by the month can also attend to a good kitchen and flower garden, or with an assistant, can do much besides even attending a very considerable grapery. It does not require much time in fall and winter, &c. &c. *J. J. S. Philadelphia, Aug. 9th*, 1847.

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The Great Annual Fair, of the N. Y. State Agricultural Society, will be held at Saratoga Springs on the 15th, 16th and 17th of September.

Massachusetts Horticultural Society.—The nineteenth annual exhibition will be held at the Society's Hall, Boston, on Wednesday, Thursday and Friday, September 22d, 23d and 24th.

The Pennsylvania Horticultural Society, will hold its nineteenth annual exhibition on the 15th, 16th and 17th of September, in the Philadelphia Museum, corner of Ninth and George streets, and will occupy the two grand saloons of that building. The committee solicit contributions in fruits, plants, flowers, and culinary vegetables. Articles from a distance may be sent by Adams & Co.'s Express, and the Society will cheerfully defray the cost of transportation. The same may be addressed to D. Landreth's seed warehouse, 65 Chesnut st., or Thomas P. James, 212 Market street, Philadelphia.

American Agricultural Association. *Horticultural Exhibition.*—This society, to avoid conflicting with the State Fair, will hold its autumnal exhibition of fruits and flowers at the Lyceum building, 561 Broadway, on the 8th and 9th of September. It is expected that this will be a more brilliant show of fruits and flowers than has been seen in New-York for many years.

Montreal Hort. Society.—We have been favored by the Rev. Mr. Villeneuve, one of the Vice-Presidents of this Society, with a copy of the proceedings connected with its formation, together with its list of premiums to be awarded at its autumnal show, to be held on the 8th of Sept. The institution is under the patronage of his excellency the Earl of Elgin and Kilcardin; the Hon Mr. Justice Day, President, whose address, at the meeting held for organizing the Society, we have read with interest.

New Haven County Horticultural Society.—The seventeenth annual exhibition of this spirited Society will take place at the State House, New Haven, on the 28th, 29th and 30th of September. An address will be delivered before the Society on the afternoon of Wednesday, the second day; and we are requested to say that delegates from other Societies, on making themselves known at the place of exhibition, will be cordially received by a committee appointed for the purpose.

☞ A Horticultural Society has been organized at Springfield, Mass., and the following officers appointed:—Wm. B. Calhoun, *President;* Timothy W. Carter, J. B. Bridgeman, Henry Vose, *Vice-Presidents;* B. K. Bliss, *Secretary* and *Treasurer;* Rufus Whittier, D. M. Bryant, Richard Bliss, Henry Brewer, Jr., Lucius Harthan, *Directors.*

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Hovey's Fruits.—I have carefully examined the new periodical of Mr. Hovey, with colored plates of fruit, reviewed by you in p. 568 of the Horticulturist, and am surprised that you have spoken so favorably of it, and commended it to the public favor. I suspect that there must have been a copy of it specially prepared for your eye, as those I have seen disappoint many here. The coloring is poor, and the portraits or likenesses quite bad. *Baldwin* apple for instance, is painted a bright *scarlet*, when every one knows the fruit itself is of a purplish red. I am quite confident too that no cultivator would recognize the *Glout Morceau* pear from the plate given of it.

Among other great things promised in the *prospectus*, was "Sketches of the habit of the tree." Without wishing to be hyper-critical, I call upon any one knowing the growth of the Baldwin apple to look at the "sketch of the habit" of that sort, given at the beginning of the description on page 11. It looks more like a sketch of the habit of a lean asparagus stalk!

If the future numbers evince no more pomological discrimination than the first, the work will be of little value. Yours. *W. Philadelphia, Aug. 10th*, 1847.

The Dutch Elm, (*Ulmus suberosa.*)—This is, as many of our readers are aware, one of the most vigorous and rapid growing of all the fine genus of trees to which it belongs. It is distinguished from other foreign species by its *corky* bark. Though the tree is not so graceful and elegant in shape as our American weeping Elm, it forms a large, upright, and dark massy head of foliage, and few trees serve better to form rapidly, thick screen pantations, to hide unsightly objects, or produce rich masses of verdure, than the Dutch Elm.

We have also observed the present season, that trees of the Dutch Elm, standing in the streets of a village, among other native elms, were entirely untouched by caterpillar, and other insects which prey upon the latter. If this exemption is constant, it will render the Dutch Elm particularly valuable as a town shade tree.

SUMMER CROPS OF PEAS.—Those of your readers who are fond of a succession of this fine vegetable, and have found difficulty in obtaining such during the drier parts of the summer, may be pleased to learn that they may be successful if they will plant them in shallow trenches, in the same way as they are usually prepared for celery — the trenches should, however, only be five or six inches deep. These trenches catch a supply of moisture during showers and retain it, so that, as I have found, the rows of peas grown in them, are green and luxuriant, when on the flat surface adjoining they fail entirely. *W. H. Philadelphia, August*, 1847.

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STRAWBERRIES.—Although pressed by avocations, I cannot allow the mistaken statement of Mr. HOVEY, as published in the last number of his magazine, to pass unnoticed. He has just reason to be proud of Hovey's Seedling for its great size and beauty, although so deficient in flavor, without detracting from other varieties. He says that at the Flushing exhibition, Hovey's Seedling "received the prize for three quarts, in competition with upwards of 30 other varieties;" whereas the truth is, that *no other kind whatever was offered in competition for the three quart premium*, the 30 varieties being exhibited in small quantities of a pint or less *as a collection*, and a premium was awarded to them. The case was similar at the exhibition in New-York, where a premium was also awarded. Having above 60 estimable varieties, more than 20 of which would be pronounced superior to the Hovey where *flavor* was considered, we had necessarily to send but a small quantity of each in our show cases; but there never has been seen in Europe or America so splendid a collection as we exhibited. The great venders of Strawberries in the New-York market, stated, the present season, that they could not sell the Hovey Seedling, *until their stock of the Crimson Cone was exhausted*. What will be said when the Primate, Primordian, Charlotte, Eberlein, and other choice varieties, are sent in quantities to our markets. We solicit friend HOVEY to pay a visit to Flushing, and not keep his eye *so askance*, for we are all co-laborers in a common cause. *Wm. R. Prime. Flushing, August*, 1847.

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FAVORITE ROSES.—*Dear Sir:* Perhaps it may be interesting to some of your readers to know the opinion of an amateur cultivator on the subject of roses. I find that no question is asked more frequently than "What are your *favorite* roses, as I see you cultivate a large collection?" Now it is perhaps a little difficult to select, but there are a few sorts that are such established favorites with me, that I will not hesitate to name them. First, then, among the *Bourbons*, — *Souvenir de Malmaison*, always large, finely formed, and of a most delicate and lovely shell color, — *Paul Joseph*, rich crimson, a tint rare in summer roses, and for its *otto* perfume an old variety, *Gen. Dabourg*.— Among the *Noisettes*, I will mention only one, indispensable in all collections — *Aimee Vibert* — always in bloom, and its clusters of the purest white; it makes a charming bed when it is planted in a mass, and the shoots pegged to the surface as they grow. Among the Tea Roses it is difficult to decide, as there is so much beauty and perfume — but on the whole, I think there are few sorts that surpass *Devoniensis*. From *an Amatuer. New-York, August*, 1847.

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ALBANY AND RENSSELAER HORT. SOCIETY.— The second exhibition of this Society was held at the Court-House in Troy on the 24th of July :— *Greatest variety of Green-house plants*—Premium to L. Menand, Watervliet. Dr. H. Wendell exhibited the greatest variety of *Phloxes* — 16 fine new varieties. *Greatest variety of Dahlias*—Premium to W. Newcomb, Pittstown, who presented 76 kinds. *Floral ornaments*—First premium to Mrs. D. T. Vail, Troy; second premium to Joel Rathbone, Albany. *Hand Bouquets*—First premium to Dr. H. Wendell, Albany. *Vase Bouquets*—One offered by Mrs. Chas. H. Merritt, highly commended. *Currants, best flavored and finest* – First premium to J. W. Haydock, Greenbush, for the kind called "white grape;" second premium to Jas. Wilson, Albany, for "Knight's sweet." *Gooseberries, best specimens and finest flavored*—First premium to S. E. Warren, Troy, for "Lord Creve;" second premium to Henry Vail, Troy, for "Green Walnut." *Raspberries, best specimen and finest flavor* —First premium to Henry Vail, Troy, for "Franconia;" second to V. P. Douw, Greenbush, for "Red Antwerp."

VEGETABLES. *Best Beets*—Premium to E. P. Prentice, Albany. *String Beans*—Premium to Dr. H. Wendell, Albany. *Cucumbers*, (open culture.)— Premium to V. P. Douw, Greenbush. *Roman Cucumbers*—Special premium, V. P. Douw. *Squashes, best summer*—Premium to Joel Rathbone, Albany. *Tomatoes*—First premium, V. P. Douw; second, E. P. Prentice. *Egg-plants*—Sample by E. P. Prentice, highly commended. A *winter Squash* of the growth of 1846, in great perfection, was presented by James Montgomery, Troy. A variety of vegetables, fruits, flowers, garden tools, &c., very tastefully arranged by Alex. Walsh, Esq., of Lansingburgh, attracted much attention, and for which a special premium of $2 was awarded. The show of currants, &c., was specially fine.

The third exhibition was held at Troy on the 22d of August. "The display of apples and plums, indeed of all the fruits of the season," says the Troy Whig, "was worthy of all praise. The floral exhibition was no less meritorious. In Dahlias, Asters, and Verbenas, we have seldom seen more perfect specimens or a greater variety. Water melons, of a size which we could not have believed they would attain in this latitude so early in the season; nutmeg melons of the most orthodox shape, with every variety of the melon family, were there in profusion, with mammoth egg plants, squashes," &c. &c. ....

THE CHRISTIANA MELON.—The seeds which you obligingly sent me of Capt. LOVETT's new melon, have done well and yielded me a fine crop. Planted at the same time with the netted *citron* and nutmeg melons, they ripened ten days earlier. Although I do not consider it quite equal in flavor to these two varieties, still it is an excellent sort, and its early maturity renders it particularly valuable. *T. B. New-York, Aug. 3d*, 1847.

MASSACHUSETTS HORTICULTURAL SOCIETY.

Exhibition of Saturday, July 3, 1847.

FLOWERS.—From M. P. WILDER, President of the Society, ten pots of new Gladioli, viz: Duc d'Orleans, Lehmanii, Christianus No. 1, insignis, Wilhelmus, Spœrshill, pyramidalis, Dohreii, Pawlonia, and Queen Victoria; the varieties are all fine, some of them exquisitely beautiful. Cut flowers in great variety, including fine Roses, among which were noticed Princess Clementine (a new white,) Alba Felicite, La Vestale, Madame Hardy, Kean, Blanche Fleur, La Reine, Mrs. Elliot, Louis Buonaparte, Earl Talbot, Marquise Borella, &c. &c. Also, new scarlet Geraniums, viz: Prince Albert, Cyrus, Queen, Shrubland superb, Brighton Hero, Gen. Tom Thumb, and Goliah. Also, Cacti, Duetzi, and other cut flowers.

From *Hovey & Co.*, one large circular bouquet, two very fine large flat do., and six hand do; also, a great variety of fine Roses, and other cut flowers.

From *John Kenrick*, a fine flower of Magnolia macrophylla. Why is not this beautiful tree more generally cultivated?

From *J. E. Teschemacher*, a plant of Hæmanthus tenuifolius, a rare and very beautiful flower, introduced to Rio Janeiro from Africa.

From *Joseph Breck & Co.*, one large circular bouquet; Prairie and other Roses; Pinks; Lilium martagon alba, purpurea and punctata; Lilium umbellatum; Campanula media, four varieties; C. persicifolia, three varieties; C. longata; Phlox Van Houttii. micanthra speciosa, and suaveolens; Persian Iris in variety; Digitalis in variety; Delphiniums; Pæonies; Dianthus barbaratus in variety; Duetza scabra; Clematis alpina, &c. &c.

From *Augustus Aspinwall*, a great variety of Roses.

From *B. V. French*, Roses in great variety.

From *William Kenrick*, by Miss Russell, one large bouquet, and a basket of flowers, with a great variety of cut flowers, including Pæonies, &c.

From *O. H. Mathers*, cut flowers in great variety, including fine specimens of Phlox Van Houttii, and other varieties; Verbenas, Roses, Pelargoniums, and other green house flowers.

From *S. Walker*, a great display of Prairie Roses, of different varieties; Duetzia scabra, Spirea arnncus, and japonica, Delphinium, Clematis alpina, and other cut flowers.

From *Parker Barnes*, fine specimens of double dwarf Rocket Larkspur, Digitalis, Campanula media in var., Pentstemon digitalis; Duetzia scabra, Cactus Speciosissimus; Dianthus barbatus, fine sorts including a double var.; Verbenas, Roses, Ipomopsis picta, Petunia Hebe and other fine sorts, Perpetual Pinks, Scabiosa atropurpurea, &c. Also, one hand boquet.

From *A. Bowditch*, six fine hand bouquets.

From *Wm. Mellar*, six varieties of Dahlias; Pinks, Pelargoniums, and other cut flowers. Also, two bouquets.

From *J. L. L. F. Warren*, ten pots plants, viz: Crassula spec., Rondeletia speciosa, Erica ventricosa superba, Calceolaria, Gardenia radicans, Mammilaria scopa alba, and Wildiana, Echinocactus spec., Euphorbia maliformis and Ixora rosea; one round vase bouquet, one flat ditto., six flat hand do., and two round hand do. Also a fine display of Prairie Roses, and cut flowers in great variety.

From Messrs. *Winship*, a fine show of Prairie Roses, White Azalea shrubs and herbaceous plants in great variety. Also, two mantel bouquets.

AWARD OF PREMIUMS

For the best six hand bouquets, to Messrs. *Hovey & Co.*, $2. For the second best do. do., to *Azell Bowditch*, $1.

For the best pair flat mantel bouquets, to *Hovey & Co.*, $2. For the second best do. do., to the Messrs *Winship*, $1.

For the best round bouquet, to Messrs. *Hovey & Co.*, $2. For the second best, do, to *J. L. L. F. Warren*, $1.

For the best Pot Plants to *J. L. L. F. Warren*, $2.

ON PRAIRIE ROSES.—James Nugent, R. M. Copeland and J. Breck, judges.

For the best display, a premium to *Samuel Walker*, of $4. For the 2d best to Messrs. *Winship*, $3.

The committee recommend a gratuity of $5, to *Marshall P. Wilder*, for his 10 new varieties of Gladioli. Also, a gratuity of $3 to *J. E. Teschemacher*, for a fine plant of Hæmanthus tenuifolius.

FRUITS.—The beautiful specimens of Strawberries presented to-day were placed upon the tables with great skill and good taste. As a whole it was the best display of this fruit that we ever saw.

Of an exhibition where all was so admirably done, we trust we may be permitted to state that this is as it should be, and as it *always ought to be*. The arrangement of the fruit in the dishes, presented on this and on former occasions by *Otis Johnson*, Esq. has appeared to us as worthy of imitation. Fruits, like flowers, may be much improved in appearance by a judicious arrangement, so as to show the "sunny side." The "British Queen" and "Princess Alice Maude" were made more "*illustrious*" in the respective dishes of the President of the Society, and *J. L. L. F. Warren*, by the graceful manner in which the berries were displayed. Hovey's Seedling, by *O. Johnson*, Hovey's Seedling and Boston Pine, by Messrs. *Hovey*; Richardson's Seedlings. Nos. 1, 2. 3, 4 and 5, Hovey's Seedling, Swainstone's Seedling and Boston Pine, by *Josiah Richardson*; five baskets of Fay's Seedling, and one basket of Hovey's Seedling, by *Isaac Fay*, may be classed among the specimens as having been arranged and exhibited to great advantage. They were truly beautiful specimens.

After a trial of two seasons, the Committee again place Jenney's seedling among the best. It is a very high flavored strawberry when fully ripe.

Josiah Richardson's seedlings, numbers *two* and *five*, possess considerable merit.

Isaac Fay's seedling. The berries were large and handsome, but they lack the essential qualities of a good strawberry, viz: delicious flavor.

The basket of "Swainstone's seedling" Strawberry, presented to the Committee by *Josiah Richardson*, (used by them as a test) were very rich. Mr. *Richardson* will please accept the thanks of the Committee for his generous supply.

The cherries, Black Tartarian and Elton, by *John Fisk Allen*, of Salem, nicely arranged in a small dish,—(one almost white and the other black) produced a charming effect. As specimens they were truly beautiful.

In the collection of the President of the Society we noticed a few berries of the seedling Strawberry "Lezzia Randolph," raised by *W. D. Brinkle*, M. D. of Philadelphia. We were pleased with its appearance. Another season we hope to test its essential qualities. The President also presented beautiful specimens of Jenney's seedling and Princess Alice Maude.

Otis Johnson, of Lynn, Hovey's seedling Strawberries and beautiful specimens of Cooledge's Favorite Peaches.

W. T. C. Morton, M. D. Hovey's Seedling.

Cyrus Curtis, Roxbury,—Strawberries?

E. Bowen, Lynn, Early White Heart Cherries?

J. L. L. F. Warren, Brighton, Early White Heart Cherries, (?) and Swainstone's Seedling, Jenney's Seedling, Prince Albert, Stoddard Pine, British Queen, Whitewood, (beautiful specimens,) and Hovey's Seedling Strawberries.

John Fisk Allen, of Salem, five varieties of Grapes; Figs; and three varieties of Peaches, viz: Royal George, (fine,) Grosse Mignonne of New-Jersey? (small,) and Hoffman's Favorite.

Samuel Downer, jr., of Dorchester, Cooledge's Favorite Peaches, and fine specimens of Hovey's Seedling Strawberries.

Seedling Wood Strawberries, by *Samuel Walker*, of Roxbury.

Exhibition of Saturday, July 10, 1847.

FLOWERS.—From M. P. WILDER, President of the Society, new Phloxes, viz: Anias Chauverii, white, with rosy purple eye, after the style of Oeil de Lynx, very fine; Auguste, and delecta; Prairie Roses, Queen, Baltimore Belle and Perpetual Pink, Blush Moss, cristata, Noisette, Solfataire, in quantity, and other varieties.

From Messrs. *Winship*, a pair of fine mantel bouquets;

Prairie Roses, Perpetual Pink, Baltimore Belle, and hardy Roses in variety; also, a great variety of herbaceous and shrubby flowering plants, occupying one circular and a number of side stands.

From *O. H. Mathers*, by Thomas Needham, a fine plant of Buddlea Lindleyana; also a great variety of cut flowers, including Pelargoniums, Roses, numerous and fine specimens of Phlox Van Houttii and bicolor; P. Drummondii, var. alba, &c.; Verbenas, Stocks, Delphiniums, &c.

From *A. Bowditch*, seven hand bouquets.

From *James Nugent*, Pelargoniums, Iberis, Roses, Verbenas, Campanula media plena, and other cut flowers.

From *Parker Barnes*, Seedling Pinks.

From *William Kenrick*, by Miss Russell, one large and four small bouquets, and cut flowers in variety.

From *Joseph Breck & Co*, Lilium candidum, umbellatum and Martagon, var. alba, purpurea and punctata; Digitalis in variety; English Iris do.; Campanula in variety; Delphinium grandiflorum, double and single, many varieties, D. Barlowii, sinensis, and elatum in variety; Picotee Pinks; Penstemon purpurea; Spiræa palmata, lobata and ulmaria; Dianthus barbatus and chinensis in variety.

From *Augustus Aspinwall*, Roses in great variety.

From *Wm. Mellar*, a great variety of Dahlias, viz: Marchioness of Ormond, Madame Chauviere, Eveque de Bayeux, Thompson's Vivid, Caleb Cope, Primrose, Countess of Liverpool, Columbine, Judy, Madame Villabois, Fairy Queen, Dowager Lady Cooper, &c; also, two large bouquets; Moss and other roses, Verbenas, Delphiniums, Perpetual Pinks, and other cut flowers.

From *J. L. Gardner*, by J. Thomas, seven pots of Thunbergia, well grown and beautiful, three varieties, Orange, Buff and White; one large design and bouquet, and one round bouquet.

From *J. L. L. F. Warren*, six pot plants, viz. Tamus Elephantipes, (elephant's foot) a curious plant; Gardenia radicans; Anigozanthus coccineus; Sollya heterophylla; Mammarilla sp.; and Echinocactus sp.; the last with a beautiful tubular blush pink flower. Also, six flat hand bouquets, and one round do.; Prairie Roses; white Water Lilies; and cut flowers in great variety.

From Messrs. *Hovey & Co*, very fine Picotee and Carnation Pinks, among which were the following, viz: Duke of Newcastle, Princess Victoria, Lady Peel, Lady Campbell, Chillwall Beauty, Meteor, Victoria, and some new seedlings. Also, ten kinds of Prairie Roses, viz: Queen of the Prairie, Perpetual Pink, Superba, Eva Corinne, Anne Maria, Miss Gunnell, Pride of Washington, Pallida, Jane, and Triumphant. Also, two large flat bouquets, two beautiful double-faced flat hand do., and two round hand do. One plant of Achimenes patens, a new variety.

AWARD OF PREMIUMS.

For the best six hand bouquets, a premium to *Azell Bowditch*, of $2. For the 2nd best do., to *J. L. L. F. Warren*. $1.

For the best pair of Mantel bouquets to the Messrs. *Winship*, $2.

To *J. Thomas*, for a design, $2.

For the best round Pyramidal bouquet, the Messrs. *Hovey*, $2. For the 2d best do. do., to *J. Thomas*, $1.

GRATUITIES.—To *J. Thomas*, for seven plants of Thunbergia, $2.

To *O. H. Mathers*, by Thomas Needham, for a plant of Buddlea Lindleyana, $1.

To *J. L. L. F. Warren*, for a Cactus in bloom, $1.

FRUITS.—By the *President*, Cherries, Black Eagle, (juicy and rich,) White Bigarreau.

Otis Johnson, Cherries, Bigarreau Couleur de Chair, White Bigarreau, Black Tartarian, Sparrawk's Honey, (sweet and delicate flavor.) Peaches, Coolidge's Favorite, (beautifully colored) Strawberries, British Queen, Princess Alice Maude, Prince Albert.

Josiah Richardson, Cherries, Black Tartarian; Strawberries, Hovey's Seedling, Deptford Pine, Prince Albert, Richardson's Seedling, numbers two and five—which fully sustained the opinion expressed in the report made last week.

Parker Barnes, Cherries, White Bigarreau.

J. Fisk Allen, Figs and seven varieties of Grapes.

F. W. Macondray, Peaches, Cooledge's Favorite, (richly colored.)

Josiah Lovett, Strawberries, Prolific Hautbois, (*peculiar* agreeable flavor,) Hovey's Seedling.

J. L. L. F. Warren, Strawberries, Alpine, Red and White.

Isaac Fay, Strawberries, four baskets—Fay's Seedling, (large and well colored.) The committee made a further trial of Mr. Fay's Seedling, and cannot pass any higher commendation than that expressed in a previous report.

Hovey & Co., Buist's Prize, pleasant acidulous flavor, Deptford Pine, Myatt's New Hautbois, (of a *peculiar* rich flavor,) Princess Alice Maude, Hovey's Seedling.

J. Owen, Strawberries, Wood, Red and White.

The Committee have again to express their obligations to the *President*, Messrs. *Josiah Richardson*, *Otis Johnson*, *Josiah Lovett*, *Isaac Fay*, and *Hovey & Co.*, for a liberal supply of Cherries and Strawberries to test their qualities—Hovey's Seedling was used as a test.

Saturday, July 17, 1847.

FLOWERS.—From M. P. WILDER, President of the Society, four pots of seedling Japan Lilies from L. speciosum crossed with L. lancifolium album. These, like all the seedlings which Mr. W. has bloomed, are almost identical with the first named species.

From *J. Breck & Co.*, fine Pinks, Delphiniums, Spiræas and other cut flowers in great variety.

From Messrs. *Winship*, two fine specimens of Yucca filamentosa and gloriosa, a variety of double Hollyhocks, Carnations, Picotee Pinks and other Herbaceous flowers, including a fine display of variegated shrubs, among which were Ulmus variegata, crispa, viminalis, cornubiensis, Betula laciniata pendula, and a pair of mantel bouquets.

From *Nahum Stetson*, Dahlias.

From *J. L. L. F. Warren*, Pinks, with other cut flowers, and ten bouquets of different shapes.

From Mr *Kenrick*, by Miss Russell, three bouquets.

From *James Nugent*, Dahlias and bouquets.

From *Hovey & Co.*, nine bouquets of various forms, including one flat double-faced hand do.; Pot plants; large Lilium lancifolium album, speciosum and punctatum.

These lillies are of surpassing beauty; Messrs. H. have been very successful in blooming them. The first was a very large and thrifty plant, having no less than six stalks and 24 flowers and buds, while the single bloom on the last named was pre-eminently deserving of the epithet, perfect. The pot plants exhibited by these gentlemen were indeed all very fine, and many of them entirely new. Among them were three species of Achimenes, picta, grandiflora and patens; Nuttalia grandiflora, Fuchsia Nymph and Platycodon grandiflorum. Also, ten varieties Carnations and Picotees, about 80 blooms.

From *Wm. Mellar*, two bouquets, and a great variety of cut flowers, Dahlias, etc.

From *J. L. Gardner*, by J. Thomas, eight pot plants, Achimenes, Thunbergia, and Gardinia florida. Also, a singular orchideaceous plant, Dendrobium spec. with flowers of a pale straw color.

From *S. R. Johnson*, fine Pinks.

From *Parker Barnes*, seedling Pinks, Gladiolus gandavensis, etc.

From *A. Bowditch*, six bouquets, and pot plants.

From *D. C. Chapman*, Cambridgeport, fine China Pinks, well arranged.

From *T. H. Perkins*, by William Quant; one fine double bouquet for large vase.

From *Wm. B. Richards*, Dahlias, vars. Caleb Cope, Vivid, etc.

From *Hugh Fraser*, Esq., Charleston, S. C., by J. L. Tucker, a sheaf of Rice, of the present year's crop, in a fine condition, the heads large, the kernels well matured, which attracted much attention from its novelty.

AWARD OF PREMIUMS.

ON BOUQUETS AND POT PLANTS.—For the best six hand bouquets, to *Hovey & Co.*, $2. 2d best do. to *A. Bowditch*, $1. And a gratuity for six do. to *J. Nugent*, $1.

For the best pair of mantel bouquets, to the Messrs. *Winship*, $2. 2d best do., to *Hovey & Co.*, $1.

For the best large oval bouquet, to *Wm. Quan*, $2. 2d best do., to *Hovey & Co.*, $1.

For the best six pot plants, to *John Thomas*, $2. And a gratuity to *Hovey & Co.*, $5.

CARNATIONS AND PICOTEES.—First premium to *Hovey & Co.*, for the best 10, $5. 2d do. to *S. R. Johnson*, for 2d best do. $4. Also, $3 to *Hovey & Co.*, for the best display, and a gratuity to *Parker Barnes* of $3, for fine Seedlings.

DOUBLE HOLLYHOCKS. A premium of $2 to Messrs. *Winship*, for the best display.

FRUITS.—The cherries exhibited to-day—Cherries! the very name calls us back half a century—to boyhood—to the charming poetry of *Shenstone:*

"See cherries here, ere cherries yet abound,
* * * * * * * *
Scattering like blooming maid, their glances round,"

—to the "cries of London" and our own "cries for cherries"—to our anxiety to get a glance of the London barrow-woman, with

"Her hair loose curled, the rest tuck'd up between
Her neatly frill'd mob-cap, was scarcely seen;
A black chip-hat peculiarly her own,
And ribbon puff'd around the small flat crown
Pinn'd to her head dress, gave her blooming face
A jaunty openness and winning grace."

Such was her dress, as she passed through the streetts and cried

"Round and sound,
Two pence a pound,
Cherries! rare, ripe cherries."

"Cherries a ha'penny a stick!
Come and pick; come and pick
Cherries! big as plums!
Who comes? who comes?"

In those days there were "white hearts" and "real black hearts,"

But no "Black Tartarians" from Lynn,
By Otis Johnson; in truth "*as big as plums*,"
Nor "Downer's red," nor "Downing's red cheek"
To please the taste or charm the "fancy,"
Nor Salem's witch—"Sweet Montmorency."

This exhibition of Cherries will be the last of the present season, with the exception, probably, of the Sweet Montmorency, and a few very late varieties.

The specimens of the "Black Eagle," furnished by the Hon. *B. V. French*, of Braintree, were made the standard to test the relative merits of the cherries presented on this occasion, to the Committee. Although many of the other varieties rank deservedly high in the estimation of the horticulturist, yet no cherry, in the opinion of the Committee, is of higher or better flavor than the Black Eagle.

"Downer's Late" is also a cherry of great excellence. Its sweet and luscious flavor should obtain for it, as it richly deserves, "a place in every garden."

A seedling cherry (probably from the Black Eagle,) by the Messrs. *Hyde*, of Newton, fully sustains the opinion expressed by the committee last season

Capt. *J. S. Sleeper*, of Roxbury, presented a seedling Cherry of good size, but not fully ripe; it has somewhat the flavor of Downer's Late, from which it probably originated. Another season, when the fruit is quite matured, we should like to try other specimens.

Wm. Quant, presented a seedling Cherry, raised by Mr. Harback, of Brookline. The fruit is large, flesh firm, coarse and deficient in flavor.

Fine specimens of the Black Tartarian (extra large,) Florence, Napoleon Bigarreau, Black Heart, and —— (?) by *Otis Johnson*, of Lynn.

A large box of Downer's Late, by *S. Walker*, Roxbury.

Several boxes of fine specimens of Cherries, by *Josiah Richardson*, of Cambridge.

Three boxes of Cherries, by Capt. *Geo. Walsh*.

Dr. *John C. Warren*, of Boston, presented specimens of a red apple (past eating,) also two fine pears of *last year's* growth. The pears were in fine order and of pleasant flavor; the mode of keeping, as also the name of the variety, were unknown to the Committee, who would like to receive further information on this subject.

Currants—fine specimens of White and also Red Dutch, by *S. A. Walker*, Brookline; *Anson Dexter*, Roxbury; *Josiah Richardson*, Cambridge, and *W. & R. Williams.*

Figs, large and fine, but not ripe, by *N. Stetson*, Esq., of Bridgewater.

Grapes—by *John Fisk Allen*, Salem, very fine specimens of ten varieties of Grapes, some extra fine berries of Wilmot's Black Hamburgh and a splendid bunch of White Nice crowned his display.

Melon—A high flavored specimen by Mr. *Wm. Quant*, from the garden of Hon. T. H. Perkins.

Mulberries—By the Messrs. *Winship*, Brighton, variety Canton or Alpine, (very large)

Peaches—Four dishes (fine) by Capt. *Macondry*, of Dorchester, and one dish by *John F. Allen*, of Salem.

Raspberries—Franconia, Fastolff, Victoria (new.) and white Thimbleberries, from the garden of *J. L. L. F. Warren*, Brighton. Extra fine specimens of the Fastolff by the Messrs. *Hovey* of Cambridge. By Vice President *Cheever Newhall*, fine specimens of Knevett's Giant.

Strawberries—Fine White Alpine by *J. L. L. F. Warren*, Brighton.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this Society was held as usual on Tuesday evening, August 17, 1847. The President in the chair. The most interesting objects in this evening's display, were the splendid Grapes from the President's grapery, and from the garden of the institution of the "Sisters of the Sacred Heart," near Andalusia. There were other fine fruits shown—Nectarines by Mr. Carpenter's gardener, Germantown, and by John Sherwood, Andalusia; also beautiful Plums, Pears and Apples. The vegetables shown by A. Fulton, Isaac B. Baxter, and Miss Gratz, betoken a favorable season for the culinary supply.

Premiums were awarded as follows:—

By the Committee on Plants and Flowers.—For the best three named specimens of hot-house plants; for the second best ditto; and for the best three named specimens of greenhouse plants, each to Archibald Henderson, gardener to Thos. W. Smith. For the best indigenous plants, and the best bouquet, to Robert Kilvington. For the second best bouquet, to A. Henderson. For the best basket of cut flowers, to Andrew Dryburgh. For the second best to Peter Raabe; and a special premium of two dollars to Alex. Parker, for plants in pots; and others of one dollar each, for bouquets, to A. Henderson, Patrick Gallagher and Ben Daniels, gardener to C. Cope.

By the Committee on Fruits.—For the best Grapes of black variety, (Black Hamburg,) to W. Westcott, gardener to the institution of the Sisters of the Sacred Heart. For the second best, (Black Hamburg,) to Ben Daniels, gardener to C. Cope. For the best white (Frontignac,) to W. Westcott. For the second best (Sweet water,) to B. Daniels. For the best Nectarines (Temple,) to Wm. Sinton, gardener to Geo. W. Carpenter. For the second best (Downton,) to John Sherwood. For the best Plums, (Bolmar's,) to Isaac B. Baxter. For the second best (Bolmar's,) to Edwin Meredith. For the best Pears, to Patrick Gallagher, gardener to Miss Gratz. For the second best, to Thomas Machran, gardener to Sam'l R. Simmons. For the best Apples, (Ladies' blush,) to John Perkins, Moorestown, N. J. For the second best Apples, to P Gallagher. And a special premium of one dollar for a jar of Figs preserved in spirits. The Committee noticed with great pleasure, the quantity and variety of Grapes displayed on this occasion, an encouraging evidence of the growing interest in this department.

By the Committee on Vegetables.—For the best and most interesting display of Vegetables, to Anthony Felten. For the second most interesting, to Jno. Austin, gardener to Isaac B. Baxter. For the third most interesting, to Patrick Gallagher. And a special premium of one dollar to John Austin, gardener to I. B Baxter, for a fine display of Red Cabbage.

The Corresponding Secretary reported letters from other Societies reciprocating invitations to visit autumnal exhibitions by delegations, which were read.

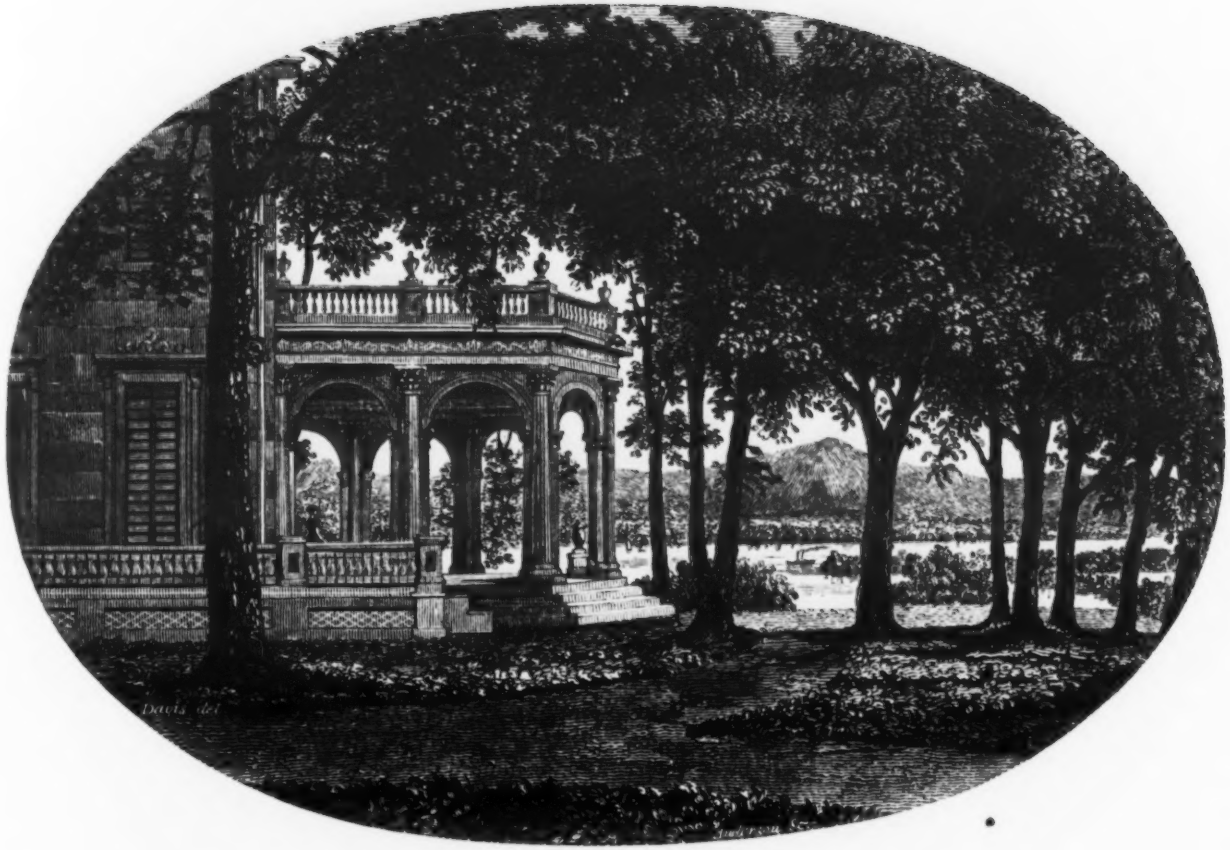
On motion, ordered, that a committee of five be appointed to take into consideration, with power to act, the selection of a proper person to collect Horticultural and other objects in Mexico, as a favorable opportunity is now afforded; also that the sum of five hundred dollars be appropriated to carry out that desirable object.

The names of the members composing delegations, to visit the autumnal exhibitions of other societies, were announced.

The Secretary reported that Dr. Wm. Darlington, of Westchester, had presented to the Society a copy of his recent work on Botany for Farmers. On motion of Library Committee, ordered, that the thanks of the society be tendered to the donor.

Members elected.—Wm. H. Adams, Alex. Dandurand, and Thomas Duchar.

THO. P. JAMES, *Rec. Sec.*



MONTGOMERY PLACE.

[Horticulturist, October, 1847.]